

JVC

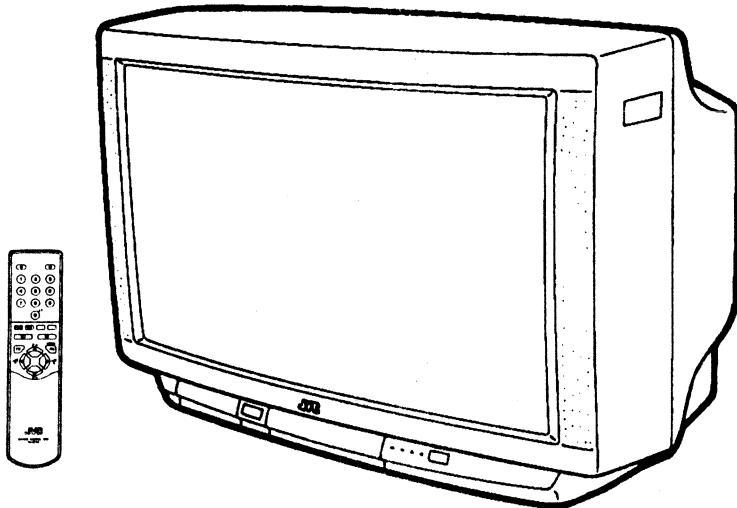
SERVICE MANUAL

COLOUR TELEVISION

BASIC CHASSIS

MD

**AV-32WZ4EP
AV-28WZ4EP
AV-28WZ4EPS**



[AV-32WZ4EP]

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SPECIFICATIONS

Item	Content	
	AV-32WZ4EP	AV-28WZ4EP / AV-28WZ4EPS
Dimensions (W x H x D)	80.5cm x 55.0cm x 55.0cm	71.6cm x 48.9cm x 49.6cm
Mass	49.8kg	36.3kg
TV RF System	CCIR (B/G, I, L)	
Colour System	PAL / SECAM / NTSC (Only EXT mode)	
Stereo System	A2/NICAM (B/G) / NICAM (B/G, L)	
Teletext System	Fastext (United Kingdom system) / TOP (German system) / WST (Standard system)	
Receiving Frequency		
VHF	47MHz~ 470MHz	
UHF	470MHz~862MHz	
French CATV	116MHz~172MHz / 220MHz~469MHz	
Intermediate Frequency		
VIF Carrier	38.9MHz(B/G, I, L) / 34.10MHz(L)	
SIF Carrier	33.4MHz(5.5MHz : B/G) / 32.9MHz(6.0MHz : I) / 32.4MHz(6.5MHz : L) / 40.6MHz(6.5MHz : L)	
Colour Sub Carrier Freq.		
PAL	4.43MHz	
SECAM	4.40625MHz / 4.25MHz	
NTSC	3.58MHz / 4.43MHz	
Power Input	AC 220V~240V, 50Hz	
Power Consumption	249W(Max), 145W(Avg) / 145W/h (ITALY)	242W(Max), 138W(Avg) / 138W/h (ITALY)
Picture Tube	Visible size : 76cm, Measured diagonally	Visible size : 66cm, Measured diagonally
High Voltage	32.0kV ^{+1kV} _{-1.5kV} (at zero beam current)	
Speaker	φ 10cm + φ 3.5cm round × 2	
Audio Output	20W + 20W	
EXT-1/EXT-2/EXT-3 (Input / Output)	21-pin Euro connector(SCART socket)	
EXT4 (Input)		
Video	1Vp-p 75Ω (RCA pin jack)	
Audio (L/R)	500mVrms(-4dBs), High Impedance(RCA pin jack)	
S-VIDEO	Y : 1Vp-p Positive (negative sync provided, when terminated with 75Ω) C : 0.286Vp-p (burst signal, when terminated with 75Ω)	
SURROUND REAR OUT	Speaker terminals for external surround speakers (impedance 8Ω) only. Rated power output : 7.5W+7.5W	
AUDIO OUT	Variable out(0-1 Vrms), Low impedance FRONT L/R output(RCA pinjack)	
Aerial Input	75Ω unbalanced, Coaxial	
Headphone jack	Stereo mini jack (φ 3.5mm)	
Remote Control Unit	RM-C793 AAA(R03) dry battery × 2	

Design & specifications are subject to change without notice.

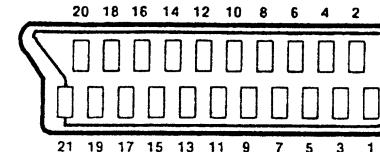
★ Manufactured under license from Dolby Laboratories Licensing Corporation.
"Dolby" and the double-D symbol  are trademarks of Dolby Laboratories Licensing Corporation.

■ 21-pin Euro connector (SCART socket) : EXT-1 / EXT-2 / EXT-3

(P-P= Peak to Peak, S-W= Sync tip to white peak, B-W= Blanking to white peak)

Pin No.	Signal Designation	Matching Value	EXT-1	EXT-2	EXT-3
1	AUDIO R output	500mVrms(Nominal), Low impedance	○ (TV OUT)	○ (LINE OUT)	NC
2	AUDIO R input	500mVrms(Nominal), High impedance	○	○	○
3	AUDIO L output	500mVrms(Nominal), Low impedance	○ (TV OUT)	○ (LINE OUT)	NC
4	AUDIO GND		○	○	○
5	GND (B)		○	○	○
6	AUDIO L input	500mVrms(Nominal), High impedance	○	○	○
7	B input	700mV _{B-W} , 75Ω	○	NC	NC
8	FUNCTION SW (SLOW SW)	Low : 0-3V, High : 8-12V, High impedance	○	○	○
9	GND (G)		○	○	○
10	SCL3		NC	○	NC
11	G input	700mV _{B-W} , 75Ω	○	NC	NC
12	SDA3		NC	○	NC
13	GND (R)		○	○	○
14	GND (Y _S)		○	NC	NC
15	R / C input	R : 700mV _{B-W} , 75Ω C : 300mV _{P-P} , 75Ω	○ (only R)	○ (only C)	○ (only C)
16	Y _S input	Low : 0 - 0.4, High : 1 - 3V, 75Ω	○	NC	NC
17	GND(VIDEO output)		○	○	○
18	GND(VIDEO input)		○	○	○
19	VIDEO output	1V _{S-W} (Negative going sync), 75Ω	○ (TV)	○ (LINE OUT)	NC
20	VIDEO / Y input	1V _{S-W} (Negative going sync), 75Ω	○	○	○
21	COMMON GND		○	○	○

[Pin assignment]



SAFETY PRECAUTIONS

- The design of this product contains special hardware, many circuits and components specially for safety purposes. For continued protection, no changes should be made to the original design unless authorized in writing by the manufacturer. Replacement parts must be identical to those used in the original circuits. Service should be performed by qualified personnel only.
- Alterations of the design or circuitry of the products should not be made. Any design alterations or additions will void the manufacturer's warranty and will further relieve the manufacturer of responsibility for personal injury or property damage resulting therefrom.
- Many electrical and mechanical parts in the products have special safety-related characteristics. These characteristics are often not evident from visual inspection nor can the protection afforded by them necessarily be obtained by using replacement components rated for higher voltage, wattage, etc. Replacement parts which have these special safety characteristics are identified in the parts list of Service manual. Electrical components having such features are identified by shading on the schematics and by (Δ) on the parts list in Service manual. The use of a substitute replacement which does not have the same safety characteristics as the recommended replacement part shown in the parts list of Service manual may cause shock, fire, or other hazards.
- Don't short between the LIVE side ground and ISOLATED (NEUTRAL) side ground or EARTH side ground when repairing. Some model's power circuit is partly different in the GND. The difference of the GND is shown by the LIVE : (L) side GND, the ISOLATED(NEUTRAL) : (L) side GND and EARTH : (G) side GND. Don't short between the LIVE side GND and ISOLATED(NEUTRAL) side GND or EARTH side GND and never measure with a measuring apparatus (oscilloscope etc.) the LIVE side GND and ISOLATED(NEUTRAL) side GND or EARTH side GND at the same time. If above note will not be kept, a fuse or any parts will be broken.
- If any repair has been made to the chassis, it is recommended that the B1 setting should be checked or adjusted (See ADJUSTMENT OF B1 POWER SUPPLY).
- The high voltage applied to the picture tube must conform with that specified in Service manual. Excessive high voltage can cause an increase in X-Ray emission, arcing and possible component damage, therefore operation under excessive high voltage conditions should be kept to a minimum, or should be prevented. If severe arcing occurs, remove the AC power immediately and determine the cause by visual inspection (incorrect installation, cracked or melted high voltage harness, poor soldering, etc.). To maintain the proper minimum level of soft X-Ray emission, components in the high voltage circuitry including the picture tube must be the exact replacements or alternatives approved by the manufacturer of the complete product.
- Do not check high voltage by drawing an arc. Use a high voltage meter or a high voltage probe with a VTVM. Discharge the picture tube before attempting meter connection, by connecting a clip lead to the ground frame and connecting the other end of the lead through a 10kΩ 2W resistor to the anode button.
- When service is required, observe the original lead dress. Extra precaution should be given to assure correct lead dress in the high voltage circuit area. Where a short circuit has occurred, those components that indicate evidence of overheating should be replaced. Always use the manufacturer's replacement components.

9. Isolation Check

(Safety for Electrical Shock Hazard)

After re-assembling the product, always perform an isolation check on the exposed metal parts of the cabinet (antenna terminals, video/audio input and output terminals, Control knobs, metal cabinet, screwheads, earphone jack, control shafts, etc.) to be sure the product is safe to operate without danger of electrical shock.

(1) Dielectric Strength Test

The isolation between the AC primary circuit and all metal parts exposed to the user, particularly any exposed metal part having a return path to the chassis should withstand a voltage of 3000V AC (r.m.s.) for a period of one second.

(... Withstand a voltage of 1100V AC (r.m.s.) to an appliance rated up to 120V, and 3000V AC (r.m.s.) to an appliance rated 200V or more, for a period of one second.) This method of test requires a test equipment not generally found in the service trade.

(2) Leakage Current Check

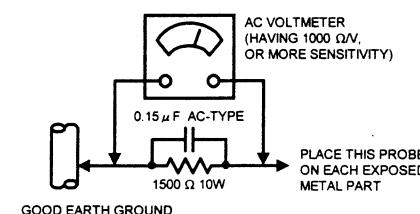
Plug the AC line cord directly into the AC outlet (do not use a line isolation transformer during this check.). Using a "Leakage Current Tester", measure the leakage current from each exposed metal part of the cabinet, particularly any exposed metal part having a return path to the chassis, to a known good earth ground (water pipe, etc.). Any leakage current must not exceed 0.5mA AC (r.m.s.).

However, in tropical area, this must not exceed 0.2mA AC (r.m.s.).

• Alternate Check Method

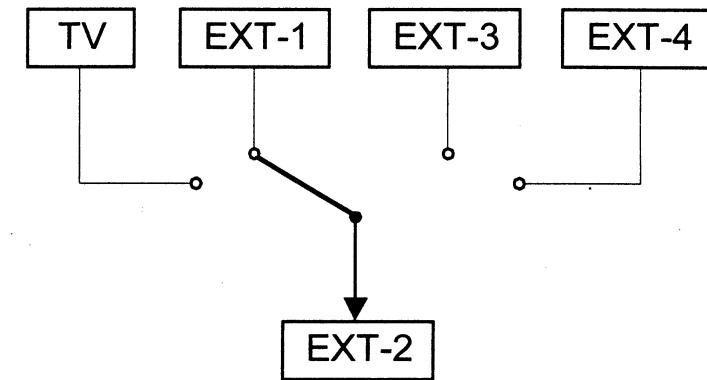
Plug the AC line cord directly into the AC outlet (do not use a line isolation transformer during this check.). Use an AC voltmeter having 1000 ohms per volt or more sensitivity in the following manner. Connect a 1500Ω 10W resistor paralleled by a 0.15μF AC-type capacitor between an exposed metal part and a known good earth ground (water pipe, etc.). Measure the AC voltage across the resistor with the AC voltmeter. Move the resistor connection to each exposed metal part, particularly any exposed metal part having a return path to the chassis, and measure the AC voltage across the resistor. Now, reverse the plug in the AC outlet and repeat each measurement. Any voltage measured must not exceed 0.75V AC (r.m.s.). This corresponds to 0.5mA AC (r.m.s.).

However, in tropical area, this must not exceed 0.3V AC (r.m.s.). This corresponds to 0.2mA AC (r.m.s.).



FEATURES

- By preference, users can select the picture size from REGULAR, PANORAMIC, 14:9 ZOOM, 16:9 ZOOM, 16:9 ZOOM SUBTITLE, FULL modes. When the TV unit received WSS picture signal, the picture can be changed to 16:9 mode automatically.
- The TELETEXT SYSTEM has a built-in Fastest, and WST system.
- Because this TV unit corresponds to multiplex broadcast, users can enjoy music programs and sporting events with live realism. In addition, BILINGUAL programs can be heard in their original language.
- In accordance with the brightness in a room, the brightness and/or contrast of the picture can be adjusted automatically to make the optimum picture which is easy on the eye.
- Users can make VCR dubbing of picture and sound by controlling the AV selector to select an optional source at the EXT-2 output shown in figure.
- Built-in SURROUND OUT.
- Built-in TV-LINK.



MAIN DIFFERENCE PARTS LIST

△	Model Name Part Name	AV-32WZ4EP	AV-28WZ4EP	AV-28WZ4EPS
	MAIN PWB	SMD-1002A-U2	SMD-1003A-U2	—
	POWER / DEF PWB	SMD-2002A-U2	SMD-2003A-U2	—
	CRT SOCKET PWB	SMD-3003A-U2	SMD-3002A-U2	—
	100Hz PWB	SMD0Z002A-U2	SMD0Z003A-U2	—
	CONTROL BASE L	CM12925-B01-E	CM12925-B03-E	—
	CONTROL BASE R	CM12925-A02-E	CM12925-A04-E	—
	FFC WIRE	CHFD125-10BD	CHFD125-06BD	—
	ANODE WIRE ASSY	QN20407-001	CETW004-055	—
△	CRT (ITC)	W76ESF031X44	W66ESF002X44	—
	BRAIDED ASSY	CHGB0029-0C	CHGB0029-0B	—
△	DEG COIL	CELD062-001J2	CELD061-001J2	—
	FRONT CABINET ASSY	CM12587-B0Q-E	CM12833-A0L-E	CM12833-A0K-E
	OPERATION SHEET	CM36857-001	CM36587-002	—
	DOOR (SERVICE)	CM23131-003-E	CM23132-010-E	CM23132-008-E
	JVC MARK	CM48125-001	—	CM48125-004
	SPEAKER NET	CM36172-00A-S	CM36171-00A-H	CM36171-00C-H
	DOME BOX (x2)	CM12922-A01-E	CM12878-B01-E	—
	DOME ADAPTER (x2)	CM12921-001-E	×	×
△	FBT (SERVICE)	QQH0054-002-I2	CETH026-00B	—
△	REAR COVER	CM12737-003-E	CM12582-A04-E	—
△	RATING LABEL	LC20092-008A-U LC20093-008A-U	LC20092-007A-U LC20093-007A-U	LC20092-016A-U LC20093-016A-U
	EURO LABEL	AEM1038-085-E	AEM1039-062-E	AEM1039-040-E
	X-RAY CARD	AEM1043-001-E	AEM1042-001-E	—
	CUSHION SHEET	AEM3022-003-E	CP40193-009-E	—
	CUSHION SHEET	AEM3022-004-E	CP40193-010-E	—
	SET COVER	AEM1004-A07-E	AEM1004-A06-E	—
	PACKING CUSHION	CP11549-B0B-E	LC10522-002A-U	—
	PACKING CASE	AEM1002-C43-E	AEM1002-067-E	—

SPECIFIC SERVICE INSTRUCTIONS

REPLACEMENT OF CHIP COMPONENT

■ CAUTIONS

1. Avoid heating for more than 3 seconds.
2. Do not rub the electrodes and the resist parts of the pattern.
3. When removing a chip part, melt the solder adequately.
4. Do not reuse a chip part after removing it.

■ SOLDERING IRON

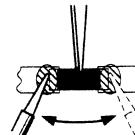
1. Use a high insulation soldering iron with a thin pointed end of it.
2. A 30w soldering iron is recommended for easily removing parts.

■ REPLACEMENT STEPS

1. How to remove Chip parts

◆ Resistors, capacitors, etc

- (1) As shown in the figure, push the part with tweezers and alternately melt the solder at each end.

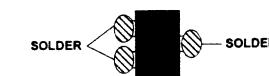


- (2) Shift with tweezers and remove the chip part.

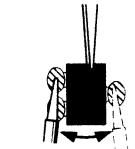


◆ Transistors, diodes, variable resistors, etc

- (1) Apply extra solder to each lead.



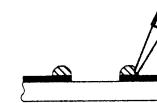
- (2) As shown in the figure, push the part with tweezers and alternately melt the solder at each lead. Shift and remove the chip part.



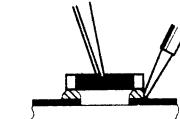
2. How to install Chip parts

◆ Resistors, capacitors, etc

- (1) Apply solder to the pattern as indicated in the figure.

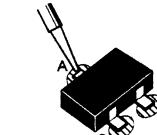


- (2) Grasp the chip part with tweezers and place it on the solder. Then heat and melt the solder at both ends of the chip part.

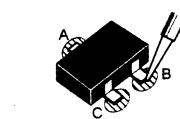


◆ Transistors, diodes, variable resistors, etc

- (1) Apply solder to the pattern as indicated in the figure.
- (2) Grasp the chip part with tweezers and place it on the solder.
- (3) First solder lead A as indicated in the figure.



- (4) Then solder leads B and C.



Note : After removing the part, remove remaining solder from the pattern.

DISASSEMBLY PROCEDURE

REMOVING THE REAR COVER

1. Unplug the power cord.
2. Remove the 13 screws marked **A** as shown in Fig. 1.
3. Withdraw the rear cover toward you.

REMOVING THE CHASSIS

- After removing the rear cover.

1. Remove the screws marked **C** on the S/VIDEO terminal of FRONT CABINET as shown in the Fig. 1.
2. Slightly raise the both sides of the chassis by hand and remove the two claws under the both sides of the chassis from the front cabinet.
3. Withdraw the chassis backward.
(If necessary, take off the wire clamp, connectors etc.)

REMOVING THE AV TERMINAL PWB & THE AV BOARD

- After removing the rear cover.

1. Remove the 9 screws marked **B** as shown in Fig. 1.
2. Remove the claws marked **C** under the CHASSIS as shown in Fig. 2.
3. While raising the claw marked **D**, remove the top of the AV BOARD slightly in the direction of arrow **E** as shown in Fig. 2.

REMOVING THE DOME SPEAKER BOX

- After removing the rear cover.

1. Remove the 2 screws marked **F** as shown in Fig. 1.
2. Follow the same steps when removing the other hand DOME SPEAKER BOX.

NOTE: When removing the screws marked **F** of the DOME SPEAKER BOX, remove the lower side screw first, and then remove the upper screw.

REMOVING THE CONTROL BASE

- After removing the CHASSIS.

1. While pushing down the claws marked **H**, remove the CONTROL BASE in the arrow direction **I** as shown in Fig. 3.

CHECKING THE PW BOARD

To check the back side of the PW Board.

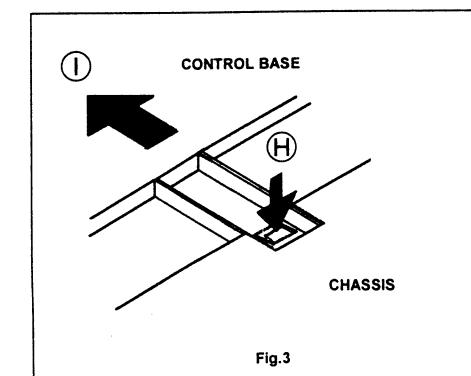
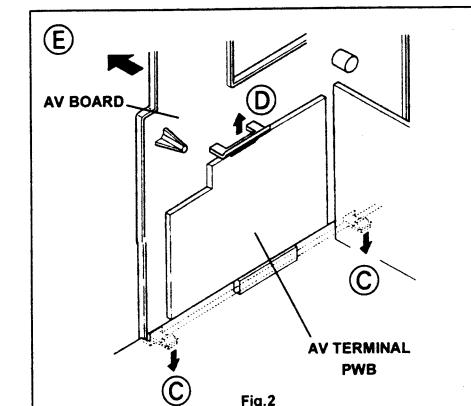
- 1) Pull out the chassis. (Refer to REMOVING THE CHASSIS).
- 2) Erect the chassis vertically so that you can easily check the back side of the PW Board.

[CAUTION]

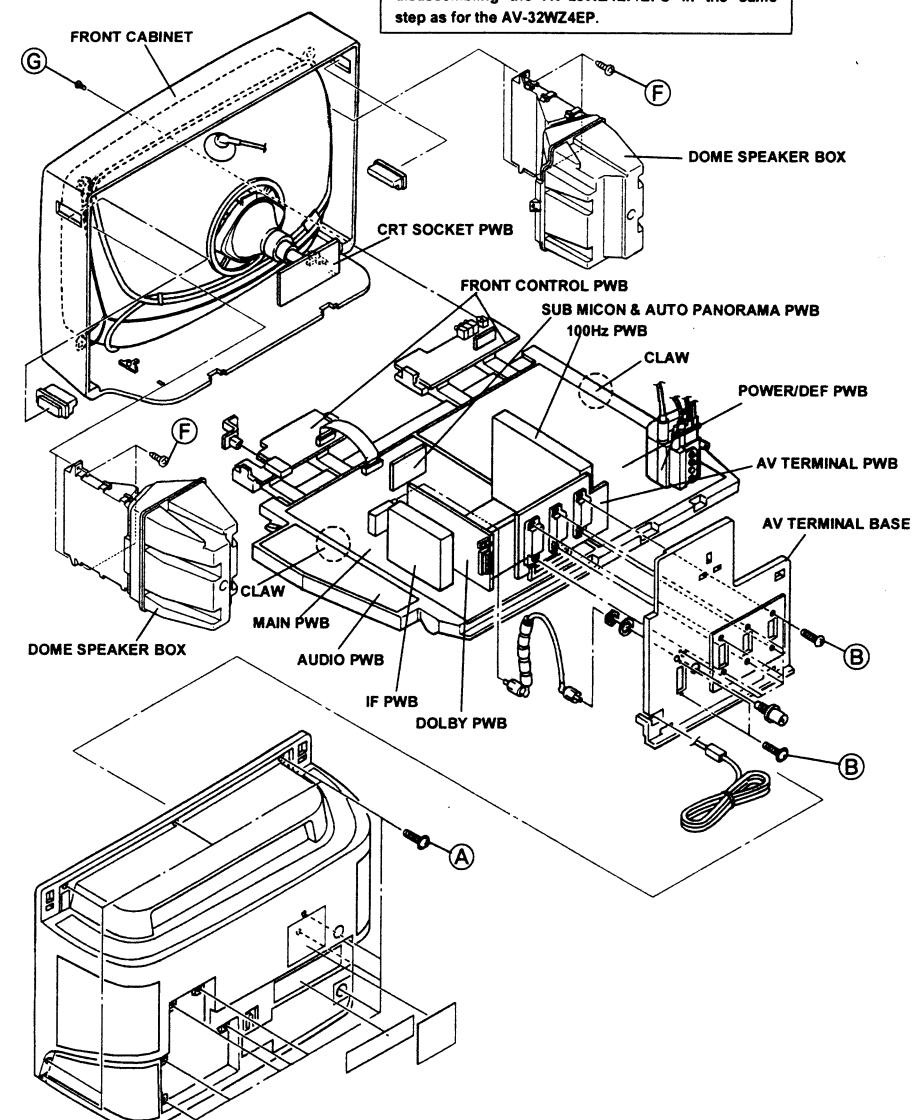
- When erecting the chassis, be careful so that there will be no contacting with other PW Board.
- Before turning on power, make sure that the wire connector is properly connected.
- When conducting a check with power supplied, be sure to confirm that the CRT EARTH WIRE (BRAIDED ASS'Y) is connected to the CRT SOCKET PW board.

WIRE CLAMPING AND CABLE TYING

1. Be sure to clamp the wire.
Never remove the cable tie used for tying the wires together.
Should it be inadvertently removed, be sure to tie the wires with a new cable tie.



This exploded view describes about AV-32WZ4EP.
Although AV-28WZ4EP/EPS are slightly different from this figure, you can use the exploded view for disassembling the AV-28WZ4EP/EPS in the same step as for the AV-32WZ4EP.



REMOVING THE CRT

- Replacement of the CRT should be performed by 2 or more persons.
- After removing the cover, chassis etc...
- 1. Putting the CRT change table on soft cloth, the CRT change table should also be covered with such soft cloth (shown in Fig.4).
- 2. While keeping the surface of CRT down, mount the TV set on the CRT change table balanced will as shown in Fig.4.
- 3. Remove 4 screws marked by arrows with a box type screw driver as shown in Fig.5.
- Since the cabinet will drop when screws have been removed, be sure to support the cabinet with hands.
- 4. After 4 screws have been removed, put the cabinet slowly on cloth (At this time, be carefully so as not to damage the front surface of the cabinet) shown in Fig.6.
- The CRT should be assembled according to the opposite sequence of its dismantling steps.
- The CRT change table should preferably be smaller than the CRT surface, and its height be about 35cm.

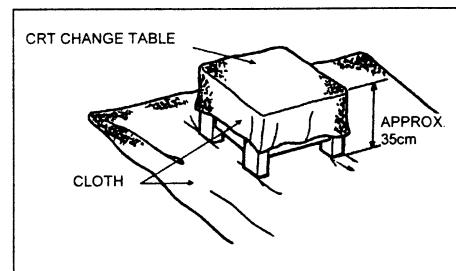


Fig. 4

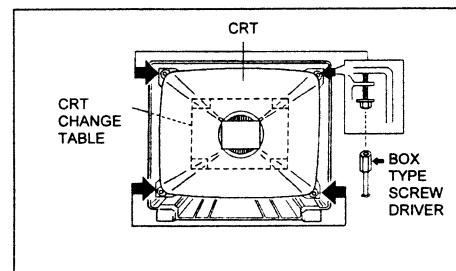


Fig. 5

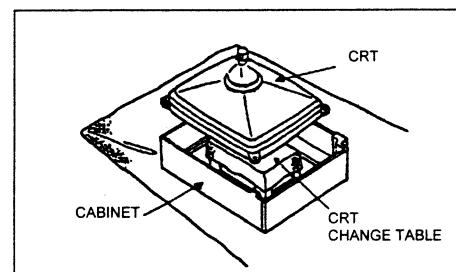


Fig. 6

COATING OF SILICON GREASE FOR ELECTRICAL INSULATION ON THE CRT ANODE CAP SECTION.

- Subsequent to replacement of the CRT and HV transformer or repair of the anode cap, etc. by dismantling them, be sure to coat silicon grease for electrical insulation as shown in Fig.7.
- Wipe around the anode button with clean and dry cloth. (Fig.7)
- Coat silicon grease on the section around the anode button. At this time, take care so that any silicon greases dose not stick to the anode button. (Fig.8)

★ Silicon grease product No. KS - 650N

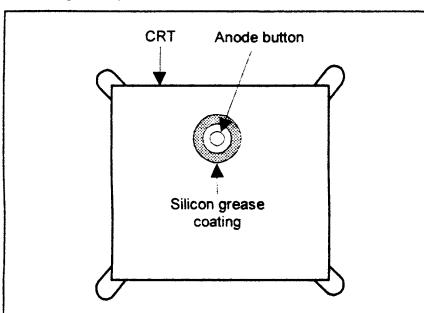


Fig. 7

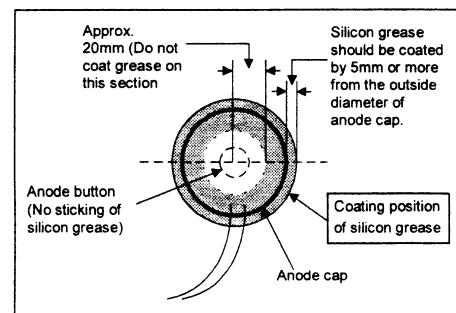


Fig. 8

REPLACEMENT OF MEMORY ICs

1. Memory ICs

This TV use memory ICs. In the memory ICs, there are memorized data for correctly operating the video and deflection circuits. When replacing memory ICs, be sure to use ICs written with the initial values of data.

2. Procedure for replacing memory ICs

PROCEDURE	
(1) Power off	Switch the power off and unplug the power cord from the outlet.
(2) Replace ICs.	Be sure to use memory ICs written with the initial data values.
(3) Power on	Plug the power cord into the outlet and switch the power on.
(4) Check and set SYSTEM CONSTANT SET:	<p>1) Press the INFORMATION key and the MUTING key of the REMOTE CONTROL UNIT simultaneously.</p> <p>2) The SERVICE MENU screen of Fig. 1 will be displayed.</p> <p>3) While the SERVICE MENU is displayed, press the INFORMATION key and MUTING key simultaneously, and the SYSTEM CONSTANT SET screen of Fig. 2 will be displayed.</p> <p>4) Check the setting values of the SYSTEM CONSTANT SET of Table 1. If the value is different, select the setting item with the FUNCTION UP/DOWN key, and set the correct value with the FUNCTION +/- key.</p> <p>5) Press the MENU key to memorize the setting value.</p> <p>6) Press the INFORMATION key twice, and return to the normal screen.</p>
(5) Setting of receive channels	Set the receive channel. For setting, refer to the OPERATING INSTRUCTIONS.
(6) User settings	Check the user setting values of Table 2, and if setting value is different, set the correct value. For setting, refer to the OPERATING INSTRUCTIONS.
(7) Setting of SERVICE MENU	Verify the setting items of the SERVICE MENU of Table 3, and reset where necessary. For setting, refer to the SERVICE ADJUSTMENTS.

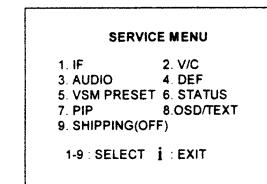


Fig.1

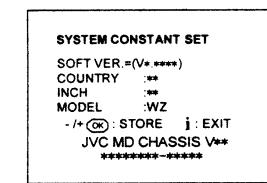


Fig.2

NAME OF REMOTE CONTROL KEY

Names of key	key
INFORMATION	
MUTING	
MENU	
FUNCTION UP/DOWN	
FUNCTION +/-	

SETTING VALUES OF SYSTEM CONSTANT SET (TABLE 1)

Setting item	Setting content	Setting value	
		AV-32WZ4EP	AV-28WZ4EP / AV-28WZ4EPS
COUNTRY	→EK→EN→EP→ER→EU	EP	EP
28INCH	→28→32→29	32	28
MODEL	→WFP1→WZ	WZ	←

USER SETTING VALUES (TABLE 2)

Setting item	Setting value	Setting item	Setting value
SUB POWER	ON	VOLUME	Appropriate sound volume
CHANNEL	1 POSITION	DISPLAY	CHANNEL NUMBER DISPLAY
CHANNEL PRESET	See ; OPERATING INSTRUCTUONS.	ZOOM	REGULAR
3D	SURROUND OFF	P BASS	POWER BASS OFF
MENU SCREEN SETTING			
PICTURE SETTING		DIGITAL SURROUND	OFF
TINT CONTRAST BRIGHT SHARP COLOUR ECO MODE	COOL REFER to VSM SETTING (SERVICE MENU) OFF	PRO LOGIC 3D-PHONIC MODE LEVEL TV SPEAKER VOLUME (L/R)	CINEMA/SPORT CENTER L/R MAX
PICTURE FEATURES		DOLBY PRO LOGIC	
DIGITAL VNR DigiPure COLOUR SYSTEM 4:3 ASPECT PICTURE TILT	OFF ON TV : According to preset CH EXT : AUTO PANORAMIC CENTER	MODE TV SPEAKER TEST MODE VOLUME	NORMAL L/R OFF MAX(ALL)
SOUND SETTING		EXT SETTING	
STEREO I / II BASS TREBLE BALANCE SPEAKER	STEREO SOUND CENTER ON	ID DUBBING	BLANK EXT1→EXT2
HEADPHONE	VOLUME : 10 TV SPEAKER : OFF	FEATURES SLEEP TIMER BLUE BLACK CHILD LOCK	OFF ON ID : No.0000 ALL CH OFF
LANGUAGE		INSTALL	
ENGLISH			

SERVICE MENU SETTING ITEMS (TABLE 3)

Setting item	Setting value	Setting item	Setting value
1. IF	1. VCO 2. DELAY POINT 3. L.V.LEVEL	5. VSM PRESET COOL NORMAL WARM	1. BRIGHT 2. CONT. 3. COLOUR 4. SHARP 5. HUE 6. WDR R 7. WDR G 8. WDR B 9. BASS 10. TREBLE
2. V/C (PAL / SECAM)	1. RGB BLK 2. WDR R 3. WDR G 4. WDR B 5. CUT R 6. CUT G 7. CUT B 8. BRIGHT 9. CONT. 10. COLOUR 11. HUE 12. CONT LIMIT 13. PURITY	6. STATUS (Do not adjust)	VPS PDC AUTO SUB SUB VER MTEXT
3. AUDIO (Do not adjust)	1. CONC LIMIT 2. A2 ID THR	7. PIP	(Not available in this model)
4. DEF.	1. V-SHIFT 2. V-SIZE 3. H-CENT 4. H-SIZE 5. EW-PIN 6. TRAPE 7. COR-UP 8. COR-LO 9. ANGLE 10. BOW 11. V-S.CR 12. V-LIN	8. OSD/TEXT (Do not adjust)	1. TEXT MONO H 2. TEXT MIX H
		9. SHIPPING (Do not adjust)	ON / OFF

SERVICE ADJUSTMENTS

BEFORE STARTING SERVICE ADJUSTMENT

1. There are 2 ways of adjusting this TV: One is with the REMOTE CONTROL UNIT and the other is the conventional method using adjustment parts and components.
2. The setting (adjustment) using the REMOTE CONTROL UNIT is made on the basis of the initial setting values. The setting values which adjust the screen to the optimum condition can be different from the initial setting values.
3. Make sure that connection is correctly made to AC power source.
4. Turn on the power of the TV and measuring instrument for warming up for at least 30 minutes before starting adjustment.
5. If the receive or input signal is not specified, use the most appropriate signal for adjustment.
6. Never touch parts (such as variable resistors, transformers and condensers) not shown in the adjustment items of this service adjustment.
7. Preparation for adjustment (presetting):
Unless otherwise specified in the adjustment items, preset the following functions with the REMOTE CONTROL UNIT:

PICTURE MODE (VSM)	COOL
SLEEP TIMER	OFF
SURROUND	OFF
BALANCE	CENTER
ECO	OFF
ZOOM	FULL

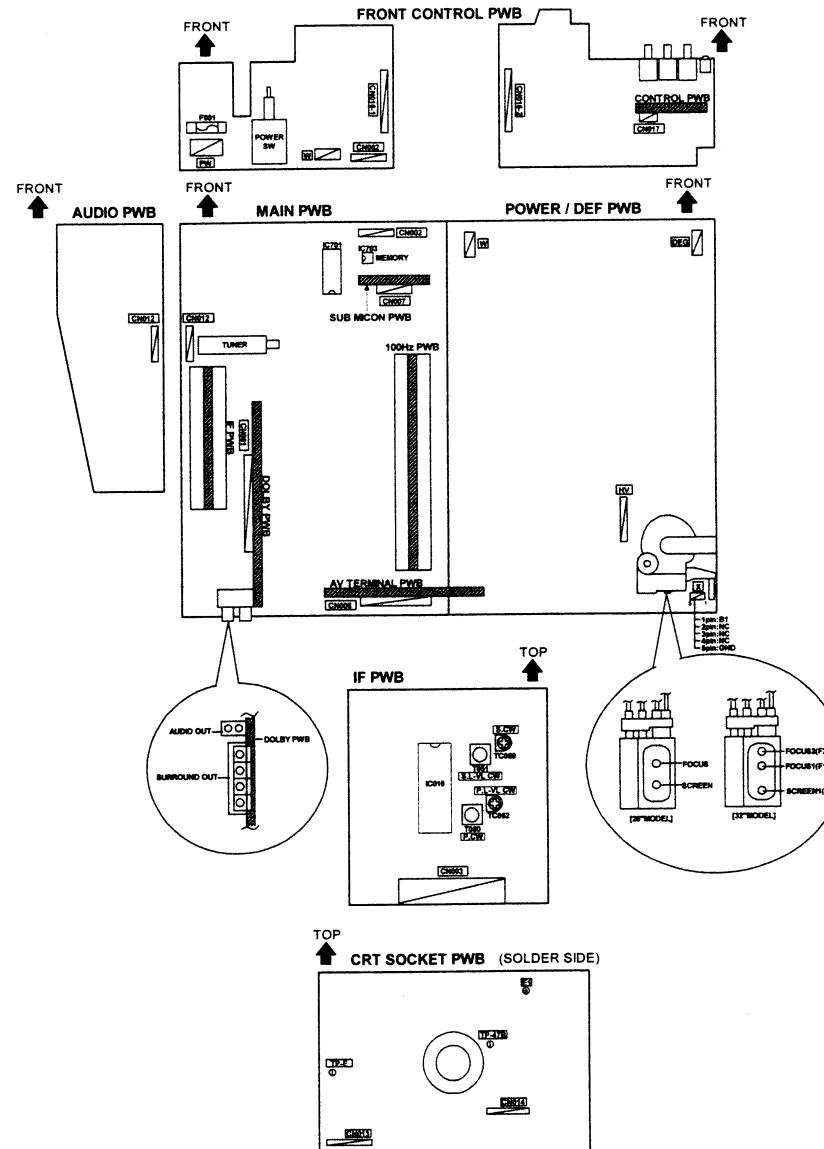
MEASURING INSTRUMENT AND FIXTURES

1. DC voltmeter (or digital voltmeter)
2. Oscilloscope
3. Signal generator (Pattern generator) [PAL / SECAM / NTSC]
4. Remote control unit

ADJUSTMENT ITEMS

- Check of B1 Power supply.
- Check of High voltage.
- Adjustment of FOCUS.
- IF circuit adjustment.
- VSM preset adjust setting.
- VIDEO / CHROMA circuit adjustment.
- DEFLECTION circuit adjustment.
- TEXT circuit adjustment.
- AUDIO circuit adjustment. (Do not adjust)

ADJUSTMENT LOCATIONS



BASIC OPERATION OF SERVICE MENU

1. TOOL OF SERVICE MENU OPERATION

Operate the SERVICE MENU with the REMOTE CONTROL UNIT.

2. SERVICE MENU ITEMS

With the SERVICE MENU, various settings (adjustments) can be made, and they are broadly classified in the following items of settings (adjustments):

- (1) 1. IF This mode adjusts the setting values of the IF circuit.
- (2) 2.V/C This mode adjusts the setting values of the VIDEO / CHROMA circuit.
- (3) 3.AUDIO This mode adjusts the setting values of the multiplicity SOUND circuit.
- (4) 4.DEF This mode adjusts the setting values of the DEFLECTION circuit for each aspect mode given below.
 - FULL (100/120Hz)
 - PANORAMIC (100/120Hz) •16:9 ZOOM SUBTITLE (100/120Hz)
- (5) 5.VSM PRESET This mode adjusts the initial setting values of COOL, NORMAL and WARM. (VSM : Video Status Memory)
- (6) 6.STATUS This mode shows the monitor of the VPS. (Do not adjust) (VPS : Video Program System)
- (7) 7.PIP This mode adjust the setting values of PIP circuit. [Not available in this mode] (PIP : Picture In Picture)
- (8) 8.OSD/TEXT This mode adjust the setting values of TEXT mode.
- (9) 9.SHIPPING This mode sets the INITIAL SETTING VALUE. (Do not adjust)

3. BASIC OPERATION OF SERVICE MENU

(1) How to enter SERVICE MENU

Press the INFORMATION key and the MUTING key of the REMOTE CONTROL UNIT simultaneously, and the SERVICE MENU screen of Fig. 1 will be displayed.

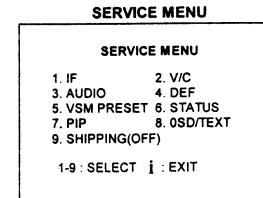


Fig. 1

(2) Selection of SUB MENU SCREEN

Press one of keys 1~9 of the REMOTE CONTROL UNIT and select the SUB MENU SCREEN (See Fig. 3), form the SERVICE MENU.

SERVICE MENU → SUB MENU

1. IF
2. V/C
3. AUDIO
4. DEF.
5. VSM PRESET
6. STATUS
7. PIP
8. OSD / TEXT
9. SHIPPING

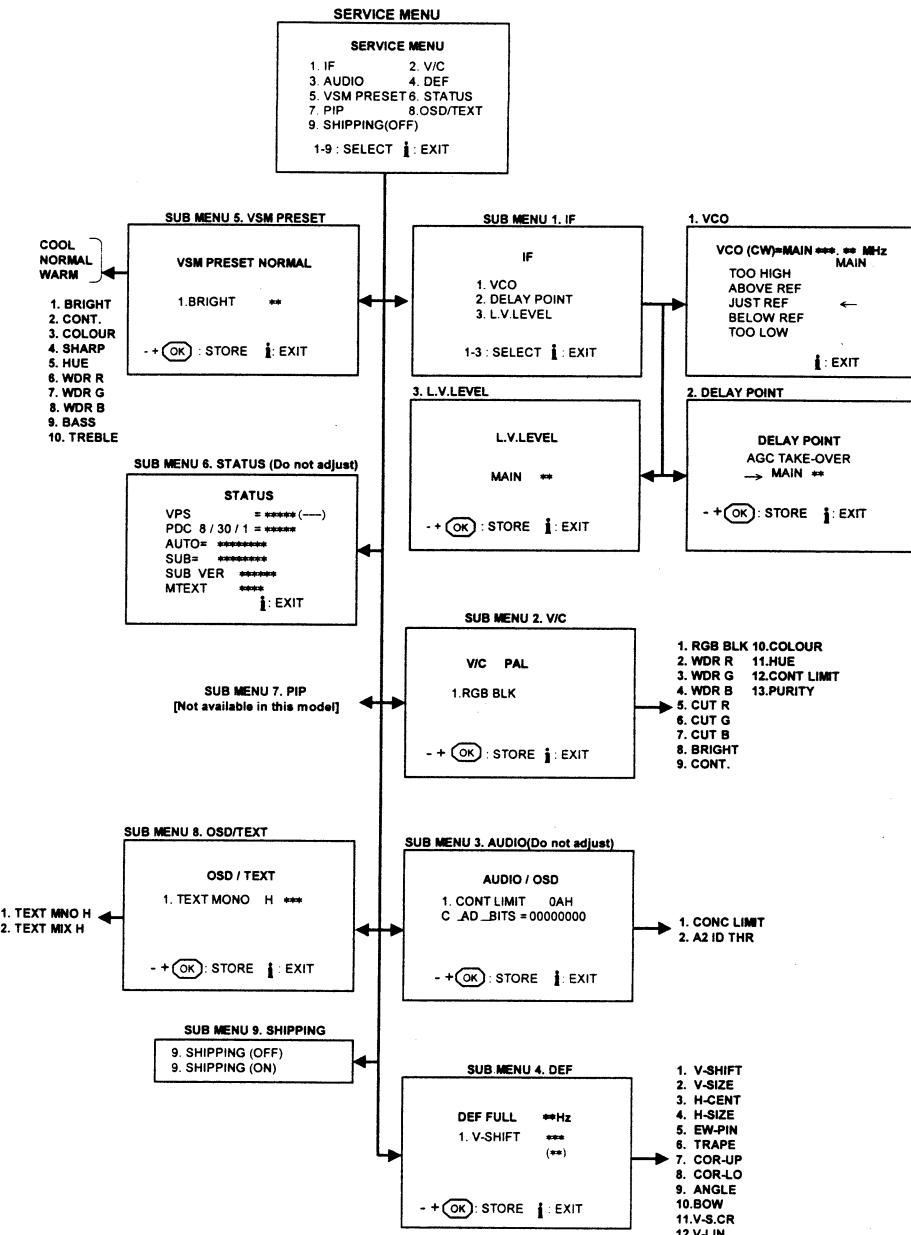
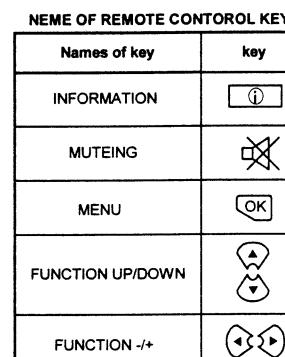


Fig. 3 SUB MENU SCREEN

(3) Method of Setting

1) Method of Setting 1.IF

[1. VCO]
 ① 1 Key Select 1.IF.
 ② 1 Key Select 1.VCO
 ③ The VCO (CW) screen will be displayed a allow mark when the AFC voltage is at a certain level.
 ④ INFORMATION Key As you press this twice, you will return to the SERVICE MENU.

[2. DELAY POINT]
 ① 1 Key Select 1.IF.
 ② 2 Key Select 2.DELAY POINT.
 ③ FUNCTION -/+ Set (adjust) the setting values of the setting items.
 ④ MENU Key Memorize the set value.
 (Before storing the setting values in memory, do not press the CH, TV, POWER ON / OFF keys
 - if you do, the values will not be stored in memory.)
 ⑤ INFORMATION Key When this is pressed twice, you will return to the SERVICE MENU.

[3. L.V.LEVEL]

① 1 Key Select 1.IF.
 ② 3 Key Select 3.L.V.LEVEL.
 ③ FUNCTION -/+ Key Set (adjust) the setting values of the setting items.
 ④ MENU Key Memorize the set value.
 (Before storing the setting values in memory, do not press the CH, TV, POWER ON / OFF keys
 - if you do, the values will not be stored in memory.)
 ⑤ INFORMATION Key When this is pressed twice, you will return to the SERVICE MENU.

2) Method of setting 2.V/C, 3.AUDIO, 4.DEF, 5.VSM PRESET, and 8.OSD/TEXT.

① 2~5, 8 Key Select one from 2. V/C, 3. AUDIO, 4. DEF, 5. VSM PRESET, and 8.OSD/TEXT.
 ② FUNCTION UP/DOWN Key Select setting items.
 ③ FUNCTION -/+ Set (adjust) the setting values of the setting items.
 (When 1.RGB BLK of 2.V/C is selected, press the FUNCTION-/+ key, and the whole will
 change to a black picture. Press the FUNCTION-/+ or 2 key, and the screen will return to the
 original screen.)
 ④ MENU Key Memorize the setting value.
 (Before storing the setting values in memory, do not press the CH, TV, POWER ON / OFF key -
 if you do, the values will not be stored in memory.)
 ⑤ INFORMATION Key Return to the SERVICE MENU screen.

3) Method of setting 6.STATUS and 9.SHIPPING.

6.STATUS (Do not adjust) This mode displayed monitor of VPS. (Video Program Systems)
 9.SHIPPING (Do not adjust) This mode is set the initial setting value at the time of shipment, you need not to use it for
 service.

(4) Release of SERVICE MENU

1) After completing the setting, return to the SERVICE MENU, then again press the INFORMATION key.

CHECK ITEM

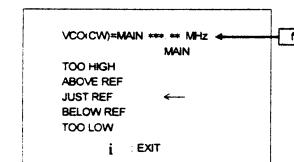
Item	Measuring instrument	Test point	Adjustment part	Description
Check of B1 Power supply	Signal Generator DC voltmeter	TP-91(B1) TP-E(GND ↓) [X connector on POWER DEF PWB]		<ol style="list-style-type: none"> Receive a any broadcast. Select 2.V/C from the SERVICE MENU. Select 1.RGB BLK with Function UP/DOWN key. Press the Function -/+ key, the whole black screen display. Connect a DC voltmeter to TP-91(B1) and TP-E(GND ↓). Make sure that the voltage is DC139.2V±2.0V.
Check of High voltage	Signal generator DC voltmeter	CRT anode		<ol style="list-style-type: none"> Receive a and broadcast. Select 2.V/C from the SERVICE MENU. Select 1.RGB BLK with Function UP/DOWN key. Press the Function -/+ key, the whole black screen display. Connect a DC voltmeter to CRT ANODE +1.0kV Make sure that the voltage is 31.0kV±1.5kV.

FOCUS ADJUSTMENT

Item	Measuring instrument	Test point	Adjustment part	Description
Adjustment of FOCUS [32"MODEL]	Signal generator		FOCUS 1 FOCUS 2 [In FBT]	<ol style="list-style-type: none"> Receive a cross-hatch signal. Select FULL mode. By turning the FOCUS 1 VR, adjust the picture so that the 5th vertical line from the left side of the cross-hatch picture becomes thinnest. By turning the FOCUS 2 VR, adjust the picture so that the 3rd horizontal line from the upper side may become uniform at the line center and its periphery. Carry out adjustment by repeating the steps 2 and 3 above. Make sure that when the screen is darkened, the lines remain in good focus.
Adjustment of FOCUS [28"MODEL]	Signal generator		FOCUS VR [In FBT]	<ol style="list-style-type: none"> Receive a cross-hatch signal. While watching the screen, adjust the FOCUS VR to make the vertical and horizontal lines as fine and sharp as possible. Make sure that when the screen is darkened, the lines remain in good focus.

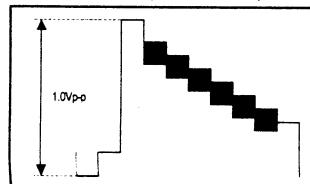
IFC CIRCUIT ADJUSTMENT

Item	Measuring instrument	Test point	Adjustment part	Description
Adjustment of VCO [MAIN]	Remote control unit		P. CW TRANSF. (T050) P.L-VL CW TRIM. C (TC052) [On IF PWB]	<ul style="list-style-type: none"> Under normal conditions, no adjustment is required. It must not adjust without signal. <ol style="list-style-type: none"> Receive a broadcast. Select 1.IF from the SERVICE MENU. Press 1 key and select 1.VCO. Select a SECAM L or PAL broadcast channel with the CHANNEL key. Turn the core of P. CW TRANSF. until the arrow mark (→) on the screen points TOO HIGH (Step 1). Turn the core of P. CW TRANSF. until the arrow mark (←) on the screen points TOO LOW (Step 2). Then slowly turn back the core of P. CW TRANSF. until the arrow mark (→) on the screen points JUST REF (Step 3). In the district where SECAM L(VHF LOW)'s broadcast, can be received, select a SECAM L's broadcast channel with the CHANNEL key and adjust the P.L-VL CW TRIM.C in the same manner as for above steps. And readjust P.CW TRANSF., if necessary. Press the INFORMATION key three times to return to normal screen. Perform CHANNEL PRESET again, and make sure that each broadcast is being received properly.
Adjustment of DELAY POINT	Remote control unit		DELAY POINT (AGC TAKE-OVER)	<ol style="list-style-type: none"> Receive a black and white signal (colour off). Select 1.IF from the SERVICE MENU. Select 2.DELAY POINT by pressing the 2 key on the remote control. Select MAIN or SUB with FUNCTION UP/DOWN key. Adjust the FUNCTION - or + key until video noise disappears. Press the MENU key and memorize the set value. Turn to other channels and make sure that there are no irregularities.
Adjustment of L V. LEVEL	Signal generator Oscilloscope [H-rate] Remote control unit	EXT-1 15pin (TV OUT)		<ol style="list-style-type: none"> Receive a SECAM-L full field colour bar signal (100% white). Connect an oscilloscope terminated 75Ω to EXT-1 terminal of 15pin (TV out). Select 1.IF from the SERVICE MENU. Press 3 key and select 3.LV LEVEL. Adjust the LV LEVEL by FUNCTION -/+ key and make the wave detector output 1.0Vp-p. Press the MENU key and memorize the set value.



Screen display	Step		
	1	2	3
TOO HIGH ABOVE REFERENCE JUST REFERENCE BELOW REFERENCE TOO LOW	←	· · ·	←

Setting item (Adjustment item)	Variable range	Initial setting value
DELAY POINT (AGC TAKE-OVER)	0~63	35



VSM PRESET SETTING

Item	Measuring instrument	Test point	Adjustment parts	Description																																																	
Setting of VSM PRESET ADJUST	Remote control unit		1. BRIGHT 2. CONT. 3. COLOUR 4. SHARP 5. HUE 6. WDR R 7. WDR G 8. WDR B 9. BASS 10. TREBLE	<ol style="list-style-type: none"> Select COOL with the MENU key of the remote control unit. Select 5.VSM PRESET from the SERVICE MENU. Adjust the FUNCTION UP/DOWN and -/+ key to bring the set values of 1.BRIGHT ~ 10.TREBLE to the values shown in the table. Press the MENU key and memorize the set value. Respectively select the VSM PRESET mode for NORMAL and WARM, and make similar adjustment as in 3 above. Press the MENU key and memorize the set value. <p>* Refer to OPERATING INSTRUCTIONS for the PICTURE MODE.</p>																																																	
<table border="1"> <thead> <tr> <th>VSM preset mode</th> <th>COOL</th> <th>NORMAL</th> <th>WARM</th> </tr> </thead> <tbody> <tr> <td>Setting item</td> <td></td> <td></td> <td></td> </tr> <tr> <td>1. BRIGHT SETTING VALUE</td> <td>-3</td> <td>+0</td> <td>+0</td> </tr> <tr> <td>2. CONT. SETTING VALUE</td> <td>+12</td> <td>-4</td> <td>-12</td> </tr> <tr> <td>3. COLOUR SETTING VALUE</td> <td>+2</td> <td>-1</td> <td>+0</td> </tr> <tr> <td>4. SHARP SETTING VALUE</td> <td>+2</td> <td>+2</td> <td>+0</td> </tr> <tr> <td>5. HUE SETTING VALUE</td> <td>+0</td> <td>+0</td> <td>+0</td> </tr> <tr> <td>6. WDR R SETTING VALUE</td> <td>-16</td> <td>+5</td> <td>+11</td> </tr> <tr> <td>7. WDR G SETTING VALUE</td> <td>-4</td> <td>+6</td> <td>+5</td> </tr> <tr> <td>8. WDR B SETTING VALUE</td> <td>+2</td> <td>+0</td> <td>-6</td> </tr> <tr> <td>9. BASS SETTING VALUE</td> <td>+0</td> <td>+0</td> <td>+0</td> </tr> <tr> <td>10. TREBLE SETTING VALUE</td> <td>+0</td> <td>+0</td> <td>+0</td> </tr> </tbody> </table>						VSM preset mode	COOL	NORMAL	WARM	Setting item				1. BRIGHT SETTING VALUE	-3	+0	+0	2. CONT. SETTING VALUE	+12	-4	-12	3. COLOUR SETTING VALUE	+2	-1	+0	4. SHARP SETTING VALUE	+2	+2	+0	5. HUE SETTING VALUE	+0	+0	+0	6. WDR R SETTING VALUE	-16	+5	+11	7. WDR G SETTING VALUE	-4	+6	+5	8. WDR B SETTING VALUE	+2	+0	-6	9. BASS SETTING VALUE	+0	+0	+0	10. TREBLE SETTING VALUE	+0	+0	+0
VSM preset mode	COOL	NORMAL	WARM																																																		
Setting item																																																					
1. BRIGHT SETTING VALUE	-3	+0	+0																																																		
2. CONT. SETTING VALUE	+12	-4	-12																																																		
3. COLOUR SETTING VALUE	+2	-1	+0																																																		
4. SHARP SETTING VALUE	+2	+2	+0																																																		
5. HUE SETTING VALUE	+0	+0	+0																																																		
6. WDR R SETTING VALUE	-16	+5	+11																																																		
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9. BASS SETTING VALUE	+0	+0	+0																																																		
10. TREBLE SETTING VALUE	+0	+0	+0																																																		
SETTING VALUES OF VSM PRESET																																																					

VIDEO/CHROMA CIRCUIT ADJUSTMENT [MAIN]

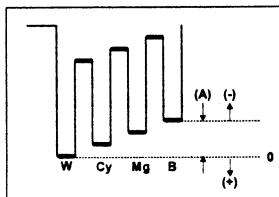
The setting (adjustment) using the REMOTE CONTROL UNIT is made on the basis of the initial setting values.
The setting values which adjust the screen to the optimum condition can be different from the initial setting values.

Setting Item (Adjustment Item)	Initial setting value		Colour system	Initial setting value	
	PAL / SECAM	NTSC 3.58 NTSC 4.43		PAL / SECAM	NTSC 3.58 NTSC 4.43
1.RGB BLK	—	—	8.BRIGHT	+000	—
2.WDR R	+010	—	9.CONT	+012	—
3.WDR G	-007	—	10.COLOUR	-008	-011
4.WDR B (Do not adjust)	+000	—	11.HUE	—	-002
5.CUT R	+000	—	12.CONT. LIMIT(Do not adjust)	+001	—
6.CUT G	+000	—	13.PURITY(Do not adjust)	+000	—
7.CUT B	+000	—			

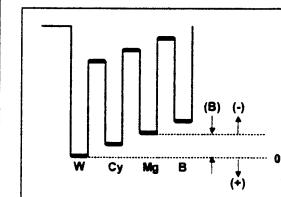
Item	Measuring instrument	Test point	Adjustment part	Description
Adjustment of WHITE BALANCE	Signal generator Remote control unit		2.WDR R 3.WDR G 5.CUT R 6.CUT G 7.CUT B	<ul style="list-style-type: none"> Set the PICTURE MODE to NORMAL. <ol style="list-style-type: none"> Receive a black and white signal(colour off). Select 2. V/C from the SERVICE MENU. Modify 2. WDR R and 3.WDR G data to adjust the white balance (high light). Modify 5. CUT R, 6. CUT G and 7. CUT B data to adjust the white balance (low light). Press the MENU key and memorize the set value.
Adjustment of SUB BRIGHT	Remote control unit		8.BRIGHT	<ol style="list-style-type: none"> Receive any broadcast. Select 2.V/C from the SERVICE MENU. Select 8.BRIGHT with the FUNCTION UP/DOWN key. Set the initial setting value with the FUNCTION -/+ key. If the brightness is not the best with the initial setting value, make fine adjustment until you get the best brightness. Press the MENU key and memorize the set value.
Adjustment of SUB CONT.	Remote control unit		9.CONT.	<ol style="list-style-type: none"> Receive any broadcast. Select 2.V/C from the SERVICE MENU. Select 9.CONT with the FUNCTION UP/DOWN key. Set the initial setting value with the FUNCTION - or + key. If the contrast is not the best with the initial setting value, make fine adjustment until you get the best contrast. Press the MENU key and memorize the set value.

Item	Measuring instrument	Test point	Adjustment part	Description
Adjustment of SUB COLOUR I	Remote control unit		10.COLOUR (PAL~NTSC)	[Method of adjustment without measuring instrument]
			PAL COLOUR	(PAL COLOUR) <ol style="list-style-type: none"> Receive PAL broadcast. Select 2.V/C from the SERVICE MENU. Select 10.COLOUR with the FUNCTION UP/DOWN key. Set the initial setting value for PAL COLOUR with the FUNCTION - or + key. If the colour is not the best with the initial set value, make fine adjustment until you get the best colour. Press the MENU key and memorize the set value.
			SECAM COLOUR	(SECAM COLOUR) <ol style="list-style-type: none"> Receive a SECAM broadcast. Make fine adjustment of SECAM COLOUR in the same manner as for above.
			NTSC COLOUR	(NTSC 3.58 COLOUR) <ol style="list-style-type: none"> Input a NTSC 3.58MHz COMPOSITE VIDEO signal from the EXT terminal. Make similar fine adjustment of NTSC 3.58 COLOUR in the same manner as for above.
				(NTSC 4.43 COLOUR) <ol style="list-style-type: none"> When NTSC 3.58 is set, NTSC 4.43 will be automatically set at the respective values.

Item	Measuring instrument	Test point	Adjustment part	Description
Adjustment of SUB COLOUR II	Signal generator	TP-47B TP-E(↓) [CRT SOCKET PWB]	10.COLOUR (PAL~NTSC)	[Method of adjustment using measuring instrument]
	Oscilloscope		PAL COLOUR	(PAL COLOUR) 1. Receive a PAL full field colour bar signal(75% white). 2. Select 2.V/C from the SERVICE MENU. 3. Select 10.COLOUR with the FUNCTION UP/DOWN key. 4. Set the initial setting value of PAL COLOUR with the FUNCTION - or + key. 5. Connect the oscilloscope between TP-47B and TP-E 6. Adjust PAL COLOUR and bring the value of (A) in the illustration to -7V (voltage difference between white (W) and blue (B)). 7. Press the MENU key and memorize the setting value.
	Remote control unit		SECAM COLOUR	(SECAM COLOUR) 1. Receive a SECAM full field colour bar signal(75% white). 2. Set the initial setting value of SECAM COLOUR with the FUNCTION +/- key. 3. Adjust SECAM COLOUR and bring the value of (A) of the illustration to -6V(W~B). 4. Press the MENU key and memorize the setting value.
			NTSC COLOUR	(NTSC 3.58 COLOUR) 1. Input a NTSC 3.58MHz COMPOSITE VIDEO signal (full field colour bar with 75% white) from the EXT terminal. 2. Set the initial setting value of NTSC 3.58 COLOUR with the FUNCTION +/- key. 3. Adjust NTSC 3.58 COLOUR and bring the value of (A) of the illustration to -3V(W~B). 4. Press the MENU key and memorize the setting value.
				(NTSC 4.43 COLOUR) 1. When NTSC 3.58 is set, NTSC 4.43 will be automatically set at the respective values.



Item	Measuring instrument	Test point	Adjustment part	Description
Adjustment of SUB HUE I	Remote control unit		11.HUE	[Method of adjustment without measuring instrument]
			NTSC 3.58 HUE	[NTSC 3.58 HUE] 1. Input a NTSC 3.58MHz COMPOSITE VIDEO signal (full field colour bar with 75% white) from the EXT terminal. 2. Select 2.V/C from the SERVICE MENU. 3. Select 11.HUE with the FUNCTION UP/DOWN key. 4. Set the initial setting value of NTSC 3.58 HUE with the FUNCTION -/+ key. 5. If you cannot get the best hue with the initial setting value, make fine adjustment until you get the best hue. 6. Press the MENU key and memorize the set value.
			NTSC 4.43 HUE	[NTSC 4.43 HUE] 1. When NTSC 3.58 is set, NTSC 4.43 will be automatically set at the respective values.
Adjustment of SUB HUE II	Signal generator	TP-47B TP-E(↓) [CRT SOCKET PWB]	11.HUE	[Method of adjustment using measuring instrument]
	Oscilloscope		NTSC 3.58 HUE	[NTSC 3.58 HUE] 1. Input a NTSC 3.58MHz COMPOSITE VIDEO signal (full field colour bar with 75% white) from the EXT terminal. 2. Select 2.V/C from the SERVICE MENU. 3. Select 11.HUE with the FUNCTION UP/DOWN key. 4. Set the initial setting value of NTSC 3.58 HUE with the FUNCTION - or + key. 5. Connect the oscilloscope between TP-47B and TP-E 6. Adjust NTSC 3.58 HUE to bring the value of (B) in the illustration to -13V (voltage difference between white (W) and magenta(Mg)). 7. Press the MENU key and memorize the setting value
	Remote control unit		NTSC 4.43 HUE	[NTSC 4.43 HUE] 1. When NTSC 3.58 is set, NTSC 4.43 will be automatically set at the respective values.



DEFLECTION CIRCUIT ADJUSTMENT

There are 2 modes of the adjustment (1) 100Hz mode (①FULL ②PANORAMIC, ③16:9 ZOOM SUBTITLE), (2) 120Hz mode (each aspect mode) depending upon the kind of signals (vertical frequency 100Hz / 120Hz).

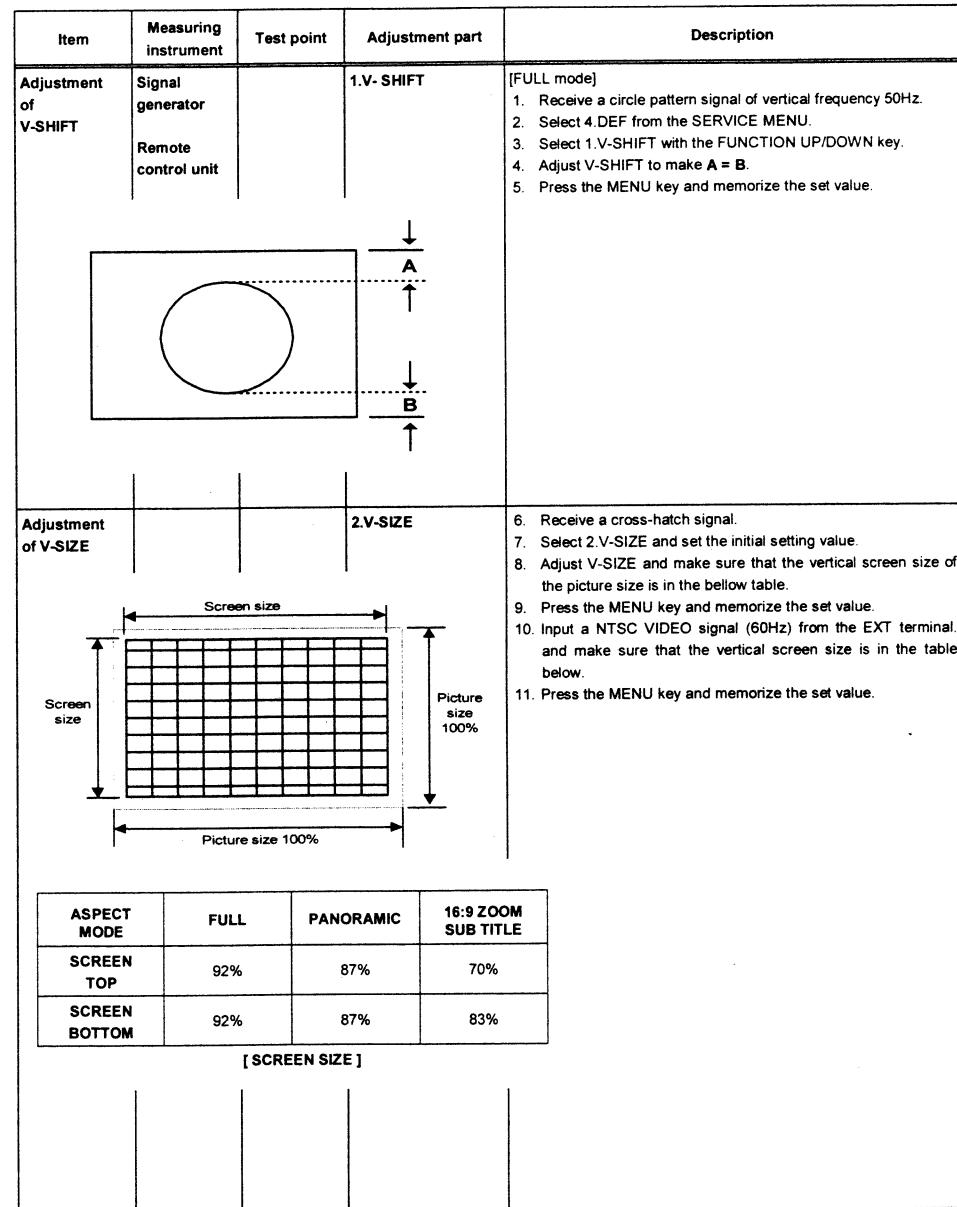
- When the 100Hz FULL mode has been established, the setting of other modes will be done automatically. However, if the picture quality has not been optimized, adjust each mode again, respectively.
- The adjustment using the remote control unit is made on the basis of the initial setting values.
- The setting values which adjust the screen to the optimum condition can be different from the initial setting values. Regular and Zoom switching is conducted not by the Deflection circuit, but by the 100 Hz PWB. Therefore, the deflection system cannot be adjusted in these modes.

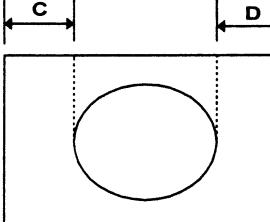
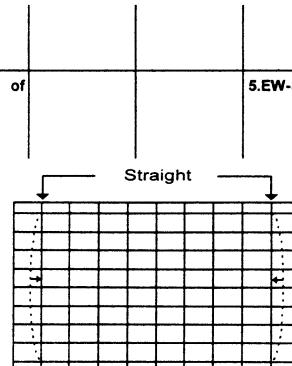
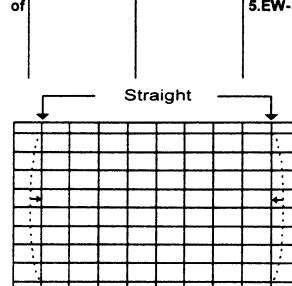
[AV-32WZ4EP]

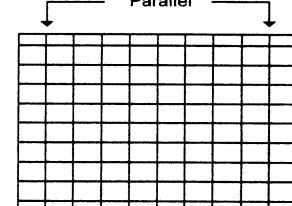
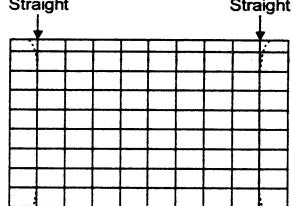
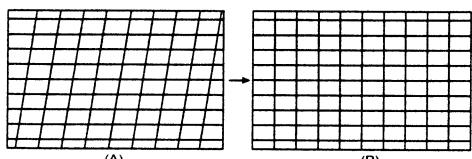
Setting item	Adjustment name	Initial setting value					
		FULL		PANORAMIC		16 : 9 ZOOM SUBTITLE	
		100Hz	120Hz	100Hz	120Hz	100Hz	120Hz
1.V- SHIFT	Vertical center	+1	-1	-2	0	-4	-2
2.V-SIZE	Vertical height	-5	-1	+2	+1	+2	+1
3.H-CENT	Horizontal center	-1	-2	+1	0	0	0
4.H-SIZE	Horizontal width	-7	-2	0	0	0	0
5.EW-PIN	Side pin correction	+22	0	+5	+2	+5	+2
6.TRAPEZ	Trapezoidal distortion correction	+3	0	+1	0	+1	-1
7.COR-UP	Corner upper correction	+2	+1	-1	-2	0	-1
8.COR LO	Corner lower correction	+1	0	-6	-3	-8	-2
9.ANGLE	Angle correction	0 (Fixed)	0 (Fixed)	0 (Fixed)	0 (Fixed)	0 (Fixed)	0 (Fixed)
10.BOW	Bow-shaped distortion correction	0 (Fixed)	0 (Fixed)	0 (Fixed)	0 (Fixed)	0 (Fixed)	0 (Fixed)
11.V-S.CR	Vertical height correction	+6 (Fixed)	+9 (Fixed)	+9 (Fixed)	+11 (Fixed)	0 (Fixed)	0 (Fixed)
12.V-LIN	Vertical Linearity	-7 (Fixed)	+2 (Fixed)	-22 (Fixed)	0 (Fixed)	-30 (Fixed)	0 (Fixed)

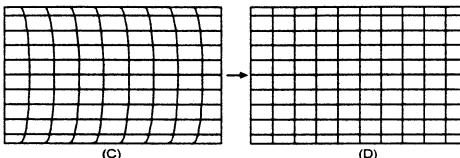
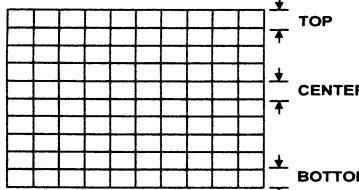
[AV-28WZ4EP / AV-28WZ4EPS]

Setting item	Adjustment name	Initial setting value					
		FULL		PANORAMIC		16 : 9 ZOOM SUBTITLE	
		100Hz	120Hz	100Hz	120Hz	100Hz	120Hz
1.V- SHIFT	Vertical center	-1	-2	-2	+1	-5	-1
2.V-SIZE	Vertical height	-5	-2	+3	+1	+3	+1
3.H-CENT	Horizontal center	-2	-1	+1	0	0	0
4.H-SIZE	Horizontal width	-11	-2	0	0	0	0
5.EW-PIN	Side pin correction	+21	-1	+4	0	+6	0
6.TRAPEZ	Trapezoidal distortion correction	0	0	0	0	0	-1
7.COR-UP	Corner upper correction	-3	+1	-1	+1	-1	0
8.COR LO	Corner lower correction	+3	0	-5	+1	-8	+1
9.ANGLE	Angle correction	0 (Fixed)	0 (Fixed)	0 (Fixed)	0 (Fixed)	0 (Fixed)	0 (Fixed)
10.BOW	Bow-shaped distortion correction	0 (Fixed)	0 (Fixed)	0 (Fixed)	0 (Fixed)	0 (Fixed)	0 (Fixed)
11.V-S.CR	Vertical height correction	+7 (Fixed)	0 (Fixed)	+6 (Fixed)	0 (Fixed)	+8 (Fixed)	0 (Fixed)
12.V-LIN	Vertical Linearity	-7 (Fixed)	+2 (Fixed)	-22 (Fixed)	0 (Fixed)	-30 (Fixed)	0 (Fixed)



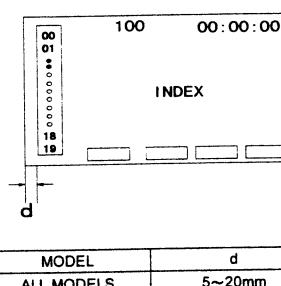
Item	Measuring instrument	Test point	Adjustment part	Description								
Adjustment of H.CENTER	Signal generator Remote control unit		3.H-CENT.	<p>12. Receive a circle pattern signal.</p> <p>13. Select 4.H-CENT and set the initial setting value.</p> <p>14. Adjust H-CENT to make C=D.</p> <p>15. Press the MENU key and memorize the set value.</p> 								
Adjustment of H.SIZE			4.H-SIZE	<p>16. Receive a cross-hatch signal.</p> <p>17. Select 4.H-SIZE and set the initial setting value.</p> <p>18. Adjust H-SIZE and make sure that the horizontal screen size of the picture size is in the below table.</p> <p>19. Press the MENU key and memorize the set value.</p> <p>20. Input a NTSC VIDEO signal (60Hz) from the EXT terminal, and make sure that the horizontal screen size is in the table below.</p> <p>21. Press the MENU key and memorize the set value.</p> <table border="1" data-bbox="168 817 673 897"> <tr> <th>ASPECT MODE</th> <th>FULL</th> <th>PANORAMIC</th> <th>16:9 ZOOM SUBTITLE</th> </tr> <tr> <td>H SIZE</td> <td>92%</td> <td>95%</td> <td>92%</td> </tr> </table> <p>[SCREEN SIZE]</p> 	ASPECT MODE	FULL	PANORAMIC	16:9 ZOOM SUBTITLE	H SIZE	92%	95%	92%
ASPECT MODE	FULL	PANORAMIC	16:9 ZOOM SUBTITLE									
H SIZE	92%	95%	92%									
Adjustment of EW-PIN			5.EW-PIN	<p>22. Select 5.EW-PIN and set the initial setting value</p> <p>23. Adjust EW-PIN and make the 2nd,vertical lines at the left and right edges of the screen straight. Also make sure that the 3rd vertical lines are straight.</p> <p>24. Press the MENU key and memorize the set value.</p> 								

Item	Measuring instrument	Test point	Adjustment part	Description
Adjustment of TRAPEZ	Signal generator Remote control unit		6.TRAPEZ	<p>25. Receive a cross-hatch signal.</p> <p>26. Select 6.TRAPEZ with the FUNCTION UP/DOWN key.</p> <p>27. Set the initial setting value of TRAPEZ with the FUNCTION - or + key.</p> <p>28. Adjust TRAPEZ and bring the VERTICAL lines at the right and left edges of the screen parallel.</p> <p>29. Press the MENU key and memorize the set value.</p> 
Adjustment of CORNER UP/ LOW	Signal generator Remote control unit		7.COR-UP 8.COR-LO	<p>30. Select 8.COR-LO with the FUNCTION UP / DOWN key.</p> <p>31. Set the initial setting value of COR-LO with the FUNCTION - or + key.</p> <p>32. Adjust COR-LO, and bring the straight line at the low corner.</p> <p>33. Select 7.COR-UP with the FUNCTION UP / DOWN key.</p> <p>34. Set the initial setting value of COR-UP with the FUNCTION - or + key.</p> <p>35. Adjust COR-UP, and bring the straight line at the upper corner.</p> <p>36. Press the MENU key and memorize the set value.</p> 
Adjustment of ANGLE	Signal generator Remote control unit		9.ANGLE	<ul style="list-style-type: none"> In case where there is a parallelogrammatical distortion of images on the screen. (Fig. A) <p>37. Select 9.ANGLE with the FUNCTION UP / DOWN key.</p> <p>38. Adjust ANGLE, and bring the VERTICAL lines straight.</p> <p>39. Press the MENU key and memorize the set value.</p> 

Item	Measuring instrument	Test point	Adjustment part	Description
Adjustment of BOW	Signal generator Remote control unit		10.BOW	<ul style="list-style-type: none"> In case where there is a bow-shaped distortion of images on the screen. (Fig.C) <p>40. Select 10.BOW with the FUNCTION UP/DOWN key. 41. Adjust BOW, and bring the VERTICAL lines straight. 42. Press the MENU key and memorize the set value.</p> 
Adjustment of V-S.CR & V.LINE			11.V-S.CR 12.V.LIN.	<ul style="list-style-type: none"> When the vertical linearity has been deteriorated remarkably, perform the following steps. <p>43. Receive a cross-hatch signal. 44. Select 12. V.LIN with the FUNCTION UP / DOWN key. 45. Set the initial setting value of 12. V.LIN with the FUNCTION -/+ key. 46. Select 11. V-S.CR. with the FUNCTION UP / DOWN key. 47. Set the initial setting value of 11. V-S.CR. with the FUNCTION -/+ key. 48. Adjust 12. V.LIN and 11. V-S.CR. so that the spaces of each line on TOP, CENTER, and BOTTOM become uniform.</p> <p>NOTE : Do not adjust "PANORAMIC" & "16:9 ZOOM SUBTITLE" mode.</p> 
				<p>At first the adjustment in 100Hz-FULL mode should be done, then the data for the other aspect mode is corrected in the respective value at the same time. And confirm the deflection adjustment initial setting value in 120Hz (NTSC EXT mode) FULL mode. If the adjustment in 100Hz each aspect mode has been done and stored, the data for the same aspect modes in 120Hz is corrected in the respective value. Only the data for the other aspect mode in 120Hz is corrected for itself.</p>

TEXT CIRCUIT ADJUSTMENT

Setting item	Variable range	Initial setting Value
1. TEXT MONO H	00H ~ FFH	0DH
2. TEXT MIX H (Do not adjust)	00H ~ FFH	00H

Item	Measuring instrument	Test point	Adjustment part	Description				
Adjustment of TEXT MONO HORIZONTAL POSITION			1.TEXT MONO H	<ul style="list-style-type: none"> Under normal conditions, no adjustment is required. <p>1. Select 8.OSD / TEXT from SERVICE MENU. 2. Select 1.TEXT MONO H with the FUNCTION UP/DOWN key. 3. Push text key to get a picture of "TEXT-MONO H". 4. Push "SUBPAGE" key. It gets a picture as shown left. 5. Adjust the value of the distance "d" as shown left with the FUNCTION -/+ key. Push "SUBPAGE" key to check adjustment every adjust. 6. Press the MENU Key, and memorize the set values.</p>  <table border="1"> <tr> <td>MODEL</td> <td>d</td> </tr> <tr> <td>ALL MODELS</td> <td>5~20mm</td> </tr> </table>	MODEL	d	ALL MODELS	5~20mm
MODEL	d							
ALL MODELS	5~20mm							

AUDIO CIRCUIT ADJUSTMENT

3. AUDIO

Setting item	Variable range	fixed value
1. CONC LIMIT(Do not adjust)	00H~FFH	0AH
2. A2 ID THR(Do not adjust)	00H~FFH	19H

PARTS LIST

CAUTION

- The parts identified by the  symbol are important for the safety. Whenever replacing these parts, be sure to use specified ones to secure the safety.
- The parts not indicated in this Parts List and those which are filled with lines — in the Parts No. columns will not be supplied.
- P. W. Board Ass'y will not be supplied, but those which are filled with the Parts No. in the Parts No. columns will be supplied.

ABBREVIATIONS OF RESISTORS, CAPACITORS AND TOLERANCES

RESISTORS		CAPACITORS	
C R	Carbon Resistor	C CAP.	Ceramic Capacitor
F R	Fusible Resistor	E CAP.	Electrolytic Capacitor
P R	Plate Resistor	M CAP.	Mylar Capacitor
V R	Variable Resistor	HV CAP.	High Voltage Capacitor
HV R	High Voltage Resistor	MF CAP.	Metalized Film Capacitor
MF R	Metal Film Resistor	MM CAP.	Metalized Mylar Capacitor
MG R	Metal Glazed Resistor	MP CAP.	Metalized Polystyrol Capacitor
MP R	Metal Plate Resistor	PP CAP.	Polypropylene Capacitor
OM R	Metal Oxide Film Resistor	PS CAP.	Polystyrol Capacitor
CMF R	Coating Metal Film Resistor	TF CAP.	Thin Film Capacitor
UNF R	Non-Flammable Resistor	MPP CAP.	Metalized Polypropylene Capacitor
CH V R	Chip Variable Resistor	TAN. CAP.	Tantalum Capacitor
CH MG R	Chip Metal Glazed Resistor	CH C CAP.	Chip Ceramic Capacitor
COMP. R	Composition Resistor	BP E CAP.	Bi-Polar Electrolytic Capacitor
LPTC R	Linear Positive Temperature Coefficient Resistor	CH AL E CAP.	Chip Aluminum Electrolytic Capacitor
		CH AL BP CAP.	Chip Aluminum Bi-Polar Capacitor
		CH TAN. E CAP.	Chip Tantalum Electrolytic Capacitor
		CH AL BP E CAP.	Chip Tantalum Bi-Polar Electrolytic Capacitor

TOLERANCES

F	G	J	K	M	N	R	H	Z	P
±1%	±2%	±5%	±10%	±20%	±30%	+30% -10%	+50% -10%	+80% -20%	+100% -0%

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AV-32WZ4EP

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AV-28WZ4EP / AV-28WZ4EPS

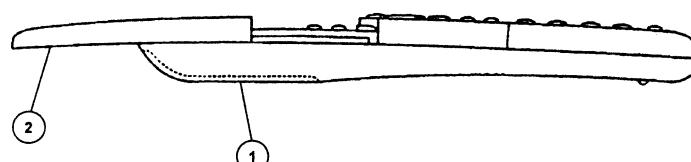
● MAIN PW BOARD ASS'Y	55
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USING PW BOARD & REMOTE CONTROL UNIT

Model	AV-32WZ4EP	AV-28WZ4EP AV-28WZ4EPS
PWB ASS'Y		
MAIN PWB	SMD-1002A-U2	SMD-1003A-U2
POWER / DEF PWB	SMD-2002A-U2	SMD-2003A-U2
DOLBY PWB	SMD0D001A-U2	←
IF PWB	SMD0F001A-U2	←
SUB MICON & AUTO PANORAMA PWB	SMD0W001A-U2	←
100Hz PWB	SMD0Z002A-U2	SMD0Z003A-U2
CRT SOCKET PWB	SMD-3003A-U2	SMD-3002A-U2
AUDIO PWB	SMD-6002A-U2	←
FRONT CONTROL PWB	SMD-8002A-U2	←
AV TERMINAL PWB	SMD0J001A-U2	←
REMOTE CONTROL UNIT	RM-C793-1E	←

REMOTE CONTROL UNIT PARTS LIST (RM-C793-1E)

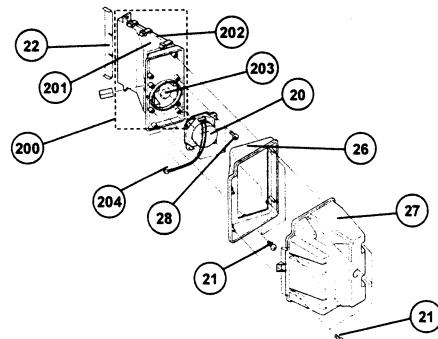
Ref. No.	Part No.	Part Name	Description	Local
1	BGV110201A	BATTERY COVER		
2	BGV110307A	SLIDE COVER		



AV-32WZ4EP

EXPLODED VIEW PARTS LIST

Ref. No.	Part No.	Part Name	Description	Local
△ V01	W76ESF031X44	ITC TUBE(C)	Inc.DY,PC,WED	*
△ L01	CELD062-001J2	DEGAUSSING COIL		*
△ L03	CELD904-001	ROTATION COIL		*
△ T2551	QH0054-002-I2	FBT	(SERVICE)	
△ 1	CM12737-003-E	REAR COVER		*
2	GBSA4016N	TAPPING SCREW	(x13)For REAR COVER	*
△ 3	LC20092-008A-U	RATING LABEL	For ENG/GER/FRA	*
△ 4	LC20093-008A-U	RATING LABEL	For ENG/GER/ITA	*
5	CM12923-A01-E	CHASSIS BASE		*
6	LC10385-001B-U	AV BOARD		*
7	QYSBSB3012M	TAPPING SCREW	(x9)For AV BOARD	*
8	CM12925-B01-E	CONTROL BASE L		*
9	CM12925-A02-E	CONTROL BASE R		*
10	QN20407-001	ANODE WIRE ASSY		*
11	CHFD125-10BD	FFC WIRE		*
△ 12	AEEMP001-185	POWER CORD		*
△ 13	CM46618-A01-E	POWER CORD CLAMP		*
14	CHGB0029-0C	BRAIDED ASSY		*
15	CHGB0017-0B	BRAIDED SUB ASSY	(x2)	*
16	CE42112-002	PALJ CONNECTOR		*
17	QQR0491-001	FILTER		*
18	CM36311-001	KNOB CAP		*
20	CEBSF10P-05KJ6	SPEAKER	(x2)SP01,SP02	*
21	GBSA4016N	TAPPING SCREW	(x20)For DOME BOX	*
22	CM22951-001	DOME SPACER	(x2)	
24	SBS3012M	TAPPING SCREW	For OPERATION SHEET	*
25	CHGY0017-0A-YS	ANTENNA CABLE		*
26	CM12921-001-E	DOME ADAPTER	(x2)	*
27	CM12922-A01-E	DOME BOX	(x2)	*
28	GBSA4016N	TAPPING SCREW	(x8)For SPEAKER	*
29	GBSA4016N	TAPPING SCREW	(x4)For DOME SPEAKER	*
200	2528MXSP-SZE-E	DOME SPEAKER	(x2) Inc.No.201~204	*
201	CM12463-D01-E	HORN	(x2)	*
202	CM12464-D01-E	HORN PANEL	(x2)	*
203	CEBSS03K-03KJ2	SPEAKER	(x2)	*
204	CHG50057-AA-N	S.P WIRE ASSY	(x2)	*
100	CHG50057-AA-N	F.CABINET ASSY	Inc.No.101~113 AV-28WZ4EP	*
101	CM12966-A01-E	F.CABINET ASSY	Inc.No.101~113 AV-28WZ4EPS	*
102	CM48229-00A	FRONT PANEL		*
103	CM36223-001	DOOR LATCH		*
104	CM36857-001	L.E.D.LENS		*
105	CM23131-003-E	OPERATION SHEET		*
106	CM36172-00A-S	DOOR	(SERVICE)	*
107	CM36225-010-E	SPEAKER NET	(x2)	*
108	CM35235-003-H	POWER KNOB	(SERVICE)	*
109	CM48125-001	SPRING		*
110	CM48076-A01	JVC MARK		*
111	CM35893-A01-E	CDS WINDOW		*
112	CH35865-00U	CHASSIS RAIL	(x2)	*
113	CH35865-00V	INSULATOR	(SERVICE)	*

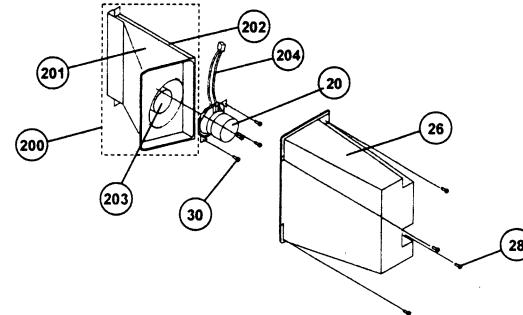
EXPLODED VIEW I
DOME SPEAKER (32")

No. 51551

AV-28WZ4EP / AV-28WZ4EPS

EXPLODED VIEW PARTS LIST

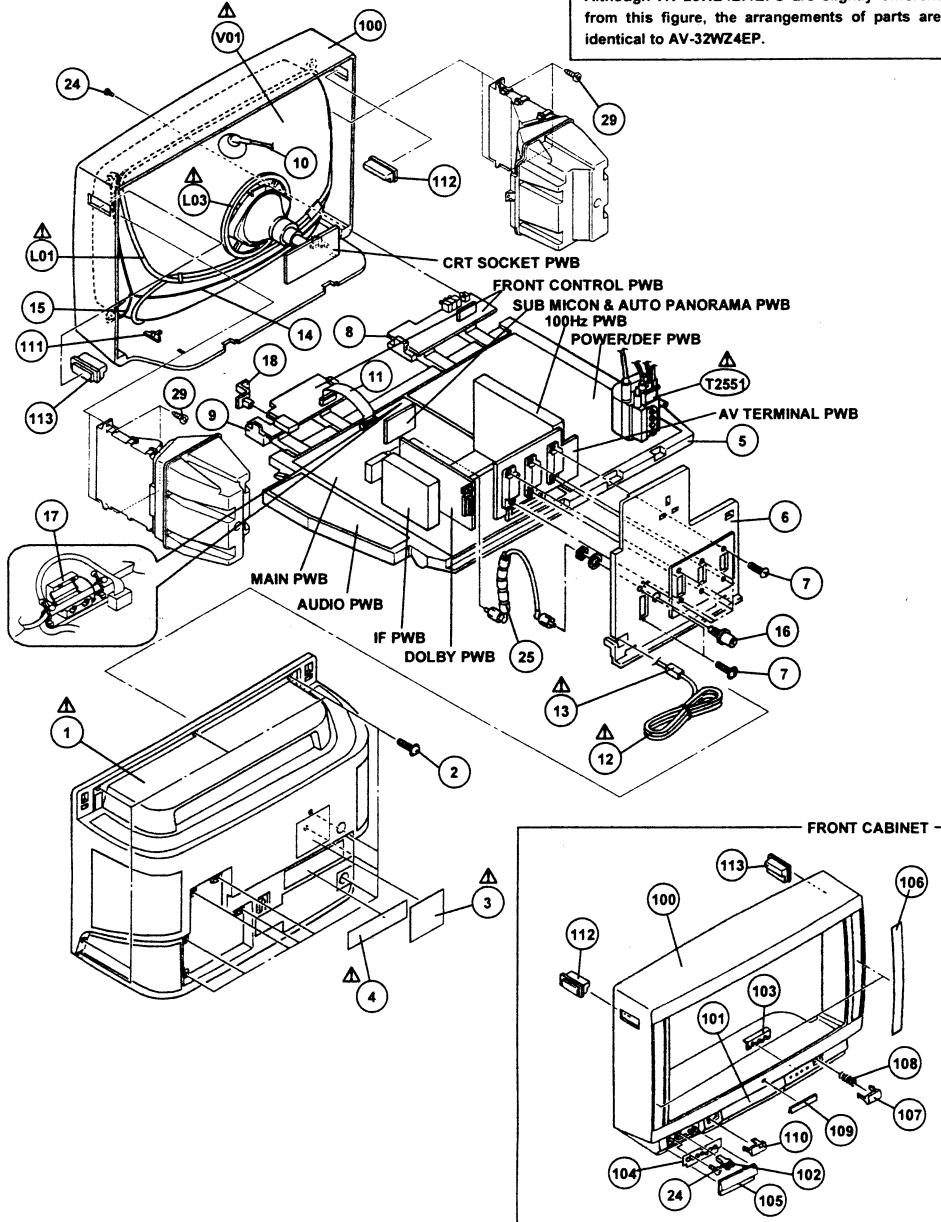
Ref. No.	Part No.	Part Name	Description	Local
△ V01	W66ESF002X44	ITC TUBE(C)	Inc.DY,PC,WED	*
△ L01	CELD061-001J2	DEGAUSSING COIL		*
△ L03	CELD904-001	ROTATION COIL		*
△ T2551	CETH026-00B	FBT	(SERVICE)	
△ 1	CM12582-A04-E	REAR COVER		*
2	GBSA4016N	TAPPING SCREW	(x13)For REAR COVER	*
△ 3	LC20092-007A-U	RATING LABEL	For ENG/GER/FRA AV-28WZ4EP	*
△ 3	LC20092-016A-U	RATING LABEL	For ENG/GER/FRA AV-28WZ4EPS	*
△ 4	LC20093-007A-U	RATING LABEL	For ENG/GER/ITA AV-28WZ4EP	*
△ 4	LC20093-016A-U	RATING LABEL	For ENG/GER/ITA AV-28WZ4EPS	*
5	CM12923-A01-E	CHASSIS BASE		*
6	LC10385-001B-U	AV BOARD		*
7	QYSBSB3012M	TAPPING SCREW	(x9)For AV BOARD	*
8	CM12925-B01-E	CONTROL BASE L		*
9	CM12925-A02-E	CONTROL BASE R		*
10	QN20407-001	ANODE WIRE ASSY		*
11	CHFD125-10BD	FFC WIRE		*
12	AEEMP001-185	POWER CORD		*
△ 13	CM46618-A01-E	POWER CORD CLAMP		*
14	CHGB0029-0B	BRAIDED ASSY		*
15	CHGB0017-0B	BRAIDED SUB ASSY	(x2)	*
16	CE42112-002	PALJ CONNECTOR		*
17	QQR0491-001	FILTER		*
18	CM36311-001	KNOB CAP		*
20	CEBSF10P-05KJ6	SPEAKER	(x2)SP01,SP02	*
25	CHGY0017-0A-YS	ANTENNA CABLE		*
26	CM12878-B01-E	DOME BOX	(x2)	*
28	GBSA4016N	TAPPING SCREW	(x8)For SPEAKER	*
30	GBSA4016N	TAPPING SCREW	(x8)For SPEAKER	*
200	2528MXSP-SZE-E	DOME SPEAKER	(x2)Inc.No.201~204	*
201	CM12463-D01-E	HORN	(x2)	*
202	CM12464-D01-E	HORN PANEL	(x2)	*
203	CEBSS03K-03KJ2	SPEAKER	(x2)	*
204	CHG50057-AA-N	S.P WIRE ASSY	(x2)	*
100	CM12833-A0L-E	F.CABINET ASSY	Inc.No.101~113 AV-28WZ4EP	*
100	CM12833-A0K-E	F.CABINET ASSY	Inc.No.101~113 AV-28WZ4EPS	*
101	CM12966-A01-E	FRONT PANEL		*
102	CM48229-00A	DOOR LATCH		*
103	CM36223-001	L.E.D.LENS		*
104	CM36587-002	OPERATION SHEET		*
105	CM23132-010-E	DOOR	(SERVICE) AV-28WZ4EP	*
105	CM23132-008-E	DOOR	(SERVICE) AV-28WZ4EPS	*
106	CM36171-00A-H	SPEAKER NET	(x2) AV-28WZ4EP	*
106	CM36171-00C-H	SPEAKER NET	(x2) AV-28WZ4EPS	*
107	CM36225-010-E	POWER KNOB	(SERVICE)	*
108	CM35235-003-H	SPRING		*
109	CM48125-001	JVC MARK	AV-28WZ4EP	*
109	CM48125-004	JVC MARK	AV-28WZ4EPS	*
110	CM48076-A01	CDS WINDOW		*
111	CM35893-A01-E	CHASSIS RAIL	(x2)	*
113	CH35865-00V	INSULATOR	(SERVICE)	*

EXPLODED VIEW II
DOME SPEAKER (28")

No. 51551

AV-32WZ4EP / AV-28WZ4EP / AV-28WZ4EPS

EXPLODED VIEW III



AV-32WZ4EP

PRINTED WIRING BOARD PARTS LIST

MAIN PW BOARD ASS'Y (SMD-1002A-U2)

△ Symbol No.	Part No.	Part Name	Description	Local
RESISTOR				
R1002	NRSA02J-103X	MG R	10kΩ 1/10W	J *
R1003-06	NRSA02J-102X	MG R	1kΩ 1/10W	J *
R1101-03	NRSA02J-102X	MG R	1kΩ 1/10W	J *
R1104	NRSA02J-681X	MG R	680Ω 1/10W	J *
R1105	NRSA02J-391X	MG R	3.9kΩ 1/10W	J *
R1107	NRSA02J-391X	MG R	390Ω 1/10W	J *
R1108	NRSA02J-102X	MG R	1kΩ 1/10W	J *
R1109	NRSA02J-103X	MG R	10kΩ 1/10W	J *
R1110	NRSA02J-472X	MG R	4.7kΩ 1/10W	J *
R1111	NRSA02J-821X	MG R	820Ω 1/10W	J *
R1112	NRSA02J-101X	MG R	100Ω 1/10W	J *
R1113	NRSA02J-102X	MG R	1kΩ 1/10W	J *
R1121-22	NRSA02J-0R0X	MG R	0.0Ω 1/10W	J *
R1123	NRSA02J-152X	MG R	1.5kΩ 1/10W	J *
R1124	NRSA02J-821X	MG R	820Ω 1/10W	J *
R1125-27	NRSA02J-103X	MG R	10kΩ 1/10W	J *
R1128	NRSA02J-153X	MG R	15kΩ 1/10W	J *
R1131-33	NRSA02J-102X	MG R	1kΩ 1/10W	J *
R1134	NRSA02J-681X	MG R	680Ω 1/10W	J *
R1135	NRSA02J-561X	MG R	560Ω 1/10W	J *
R1136	NRSA02J-681X	MG R	680Ω 1/10W	J *
R1137	NRSA02J-102X	MG R	1kΩ 1/10W	J *
R1138	NRSA02J-391X	MG R	390Ω 1/10W	J *
R1140	NRSA02J-103X	MG R	10kΩ 1/10W	J *
R1141	NRSA02J-472X	MG R	4.7kΩ 1/10W	J *
R1142	NRSA02J-821X	MG R	820Ω 1/10W	J *
R1151	NRSA02J-222X	MG R	2.2kΩ 1/10W	J *
R1152-53	NRSA02J-102X	MG R	1kΩ 1/10W	J *
R1154	NRSA02J-681X	MG R	680Ω 1/10W	J *
R1155	NRSA02J-561X	MG R	560Ω 1/10W	J *
R1156	NRSA02J-681X	MG R	680Ω 1/10W	J *
R1157	NRSA02J-102X	MG R	1kΩ 1/10W	J *
R1158	NRSA02J-391X	MG R	390Ω 1/10W	J *
R1160	NRSA02J-103X	MG R	10kΩ 1/10W	J *
R1161	NRSA02J-472X	MG R	4.7kΩ 1/10W	J *
R1162	NRSA02J-821X	MG R	820Ω 1/10W	J *
R1171	NRSA02J-103X	MG R	10kΩ 1/10W	J *
R1172	NRSA02J-562X	MG R	5.6kΩ 1/10W	J *
R1173	NRSA02J-221X	MG R	2.2kΩ 1/10W	J *
R1174	NRSA02J-272X	MG R	2.7kΩ 1/10W	J *
R1175	NRSA02J-102X	MG R	1kΩ 1/10W	J *
R1176	NRSA02J-392X	MG R	3.9kΩ 1/10W	J *
R1177	NRSA02J-472X	MG R	4.7kΩ 1/10W	J *
R1178	NRSA02J-0R0X	MG R	0.0Ω 1/10W	J *
R1179	NRSA02J-222X	MG R	2.7kΩ 1/10W	J *
R1201-02	NRSA02J-103X	MG R	10kΩ 1/10W	J *
R1203	NRSA02J-750X	MG R	75Ω 1/10W	J *
R1204	QRK126J-151X	C R	150Ω 1/2W	J *
R1205	NRSA02J-101X	MG R	100Ω 1/10W	J *
R1206	QRG01GJ-101	OM R	100Ω 1W	J *
R1207	NRSA02J-223X	MG R	22kΩ 1/10W	J *
R1208	NRSA02J-473X	MG R	47kΩ 1/10W	J *
R1209	NRSA02J-683X	MG R	68kΩ 1/10W	J *
R1210	NRSA02J-553X	MG R	15kΩ 1/10W	J *
R1211	NRSA02J-103X	MG R	10kΩ 1/10W	J *
R1212	NRSA02J-473X	MG R	47kΩ 1/10W	J *
R1213	NRSA02J-273X	MG R	27kΩ 1/10W	J *
R1214	NRSA02J-103X	MG R	10kΩ 1/10W	J *
R1215	NRSA02J-222X	MG R	2.2kΩ 1/10W	J *
R1216	NRSA02J-333X	MG R	33kΩ 1/10W	J *
R1217	NRSA02J-222X	MG R	2.2kΩ 1/10W	J *
R1218	NRSA02J-333X	MG R	33kΩ 1/10W	J *
R1219	NRSA02J-823X	MG R	82kΩ 1/10W	J *
R1220	NRSA02J-0R0X	MG R	0.0Ω 1/10W	J *
R1221	NRSA02J-391X	MG R	390Ω 1/10W	J *
R1222	NRSA02J-823X	MG R	82kΩ 1/10W	J *
R1223	NRSA02J-0R0X	MG R	0.0Ω 1/10W	J *
R1224	NRSA02J-391X	MG R	390Ω 1/10W	J *
R1225-26	NRSA02J-223X	MG R	22kΩ 1/10W	J *
R1227	NRSA02J-104X	MG R	100Ω 1/10W	J *
R1228	NRSA02J-680X	MG R	68Ω 1/10W	J *
R1229	QRK126J-181X	C R	180Ω 1/10W	J *
R1231	QRG01GJ-101	OM R	100Ω 1W	J *
R1232	NRSA02J-101X	MG R	100Ω 1/10W	J *
R1233	NRSA02J-222X	MG R	2.2kΩ 1/10W	J *
R1242	NRSA02J-223X	MG R	22kΩ 1/10W	J *
R1243	NRSA02J-473X	MG R	47kΩ 1/10W	J *
R1244	NRSA02J-683X	MG R	68kΩ 1/10W	J *
R1245	NRSA02J-153X	MG R	15kΩ 1/10W	J *
R1246	NRSA02J-103X	MG R	10kΩ 1/10W	J *
R1247	NRSA02J-473X	MG R	47kΩ 1/10W	J *
R1248	NRSA02J-273X	MG R	27kΩ 1/10W	J *
R1249	NRSA02J-103X	MG R	10kΩ 1/10W	J *
R1250	NRSA02J-222X	MG R	2.2kΩ 1/10W	J *
R1251	NRSA02J-333X	MG R	33kΩ 1/10W	J *
R1252	NRSA02J-222X	MG R	2.2kΩ 1/10W	J *
R1253	NRSA02J-333X	MG R	33kΩ 1/10W	J *
R1254	NRSA02J-823X	MG R	82kΩ 1/10W	J *
R1255	NRSA02J-0R0X	MG R	0.0Ω 1/10W	J *
R1256	NRSA02J-391X	MG R	390Ω 1/10W	J *
R1257	NRSA02J-823X	MG R	82kΩ 1/10W	J *
R1258	NRSA02J-0R0X	MG R	0.0Ω 1/10W	J *
R1259	NRSA02J-391X	MG R	390Ω 1/10W	J *
R1260-61	NRSA02J-223X	MG R	22kΩ 1/10W	J *
R1262	NRSA02J-104X	MG R	100Ω 1/10W	J *
R1263	NRSA02J-222X	MG R	2.2kΩ 1/10W	J *
R1264	NRSA02J-333X	MG R	33kΩ 1/10W	J *
R1265	NRSA02J-222X	MG R	2.2kΩ 1/10W	J *
R1266	NRSA02J-333X	MG R	33kΩ 1/10W	J *
R1267-69	NRSA02J-750X	MG R	75Ω 1/10W	J *
R1277-79	NRSA02J-750X	MG R	75Ω 1/10W	J *
R1280	NRSA02J-223X	MG R	22kΩ 1/10W	J *
R1281	NRSA02J-473X	MG R	47kΩ 1/10W	J *
R1282	NRSA02J-333X	MG R	33kΩ 1/10W	J *
R1283	NRSA02J-153X	MG R	15kΩ 1/10W	J *
R1284	NRSA02J-103X	MG R	10kΩ 1/10W	J *
R1285	NRSA02J-471X	MG R	47kΩ 1/10W	J *
R1286	NRSA02J-273X	MG R	27kΩ 1/10W	J *
R1287	NRSA02J-103X	MG R	10kΩ 1/10W	J *
R1288	NRSA02J-222X	MG R	2.2kΩ 1/10W	J *
R1289	NRSA02J-333X	MG R	33kΩ 1/10W	J *
R1290	NRSA02J-222X	MG R	2.2kΩ 1/10W	J *
R1291	NRSA02J-333X	MG R	33kΩ 1/10W	J *
R1292	NRSA02J-471X	MG R	47kΩ 1/10W	J *
R1301	NRSA02J-221X	MG R	22kΩ 1/10W	J *
R1302	NRSA02J-471X	MG R	47kΩ 1/10W	J *
R1303	NRSA02J-221X	MG R	22kΩ 1/10W	J *
R1304	NRSA02J-471X	MG R	47kΩ 1/10W	J *
R1305	NRSA02J-221X	MG R	22kΩ 1/10W	J *
R1306	NRSA02J-271X	MG R	27kΩ 1/10W	J *
R1307	NRSA02J-221X	MG R	22kΩ 1/10W	J *
R1308	NRSA02J-471X	MG R	47kΩ 1/10W	J *

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△ Symbol No.	Part No.	Part Name	Description	Local
RESISTOR				
R1309	NRSA02J-221X	MG R	220Ω 1/10W	J *
R1310	NRSA02J-471X	MG R	470Ω 1/10W	J *
R1311	NRSA02J-221X	MG R	220Ω 1/10W	J *
R1312	NRSA02J-271X	MG R	270Ω 1/10W	J *
R1313	NRSA02J-221X	MG R	220Ω 1/10W	J *
R1314-15	NRSA02J-471X	MG R	470Ω 1/10W	J *
R1316	NRSA02J-152X	MG R	1.5kΩ 1/10W	J *
R1317-18	NRSA02J-101X	MG R	100Ω 1/10W	J *
RESISTOR				
R1601	NRSA02J-103X	MG R	10kΩ 1/10W	J *
R1602	NRSA02J-104X	MG R	100kΩ 1/10W	J *
R1610	NRSA02J-471X	MG R	470Ω 1/10W	J *
R1611	NRSA02J-080X	MG R	0.0Ω 1/10W	J *
R1612	NRSA02J-561X	MG R	560Ω 1/10W	J *
R1613-14	NRSA02J-123X	MG R	12kΩ 1/10W	J *
R1615	NRSA02J-681X	MG R	680Ω 1/10W	J *
R1616	NRSA02J-102X	MG R	1kΩ 1/10W	J *
RESISTOR				
R1617-18	NRSA02J-682X	MG R	6.8kΩ 1/10W	J *
R1619-20	NRSA02J-233X	MG R	22kΩ 1/10W	J *
R1659-60	NRM143J-282X	C R	2.2Ω 1/4W	J *
R1661	NRSA02J-561X	MG R	560Ω 1/10W	J *
R1662-64	NRSA02J-123X	MG R	12kΩ 1/10W	J *
R1665	NRSA02J-104X	MG R	100Ω 1/10W	J *
R1666	NRSA02J-682X	MG R	6.8kΩ 1/10W	J *
R1667	NRSA02J-104X	MG R	100kΩ 1/10W	J *
RESISTOR				
R1668	NRSA02J-080X	MG R	0.0Ω 1/10W	J *
R1669	NRSA02J-473X	MG R	47kΩ 1/10W	J *
R1670	NRSA02J-080X	MG R	0.0Ω 1/10W	J *
R1671	NRSA02J-273X	MG R	27kΩ 1/10W	J *
R1672	NRSA02J-123X	MG R	1.2kΩ 1/10W	J *
R1673	NRSA02J-103X	MG R	10kΩ 1/10W	J *
R1674	NRSA02J-563X	MG R	56kΩ 1/10W	J *
R1675	NRSA02J-103X	MG R	10kΩ 1/10W	J *
RESISTOR				
R1676	NRSA02J-273X	MG R	27kΩ 1/10W	J *
R1677	NRSA02J-103X	MG R	10kΩ 1/10W	J *
R1678	NRSA02J-563X	MG R	56kΩ 1/10W	J *
R1679	NRSA02J-103X	MG R	10kΩ 1/10W	J *
R1680	NRSA02J-123X	MG R	1.2kΩ 1/10W	J *
R1681	NRSA02J-273X	MG R	27kΩ 1/10W	J *
R1682	NRSA02J-103X	MG R	10kΩ 1/10W	J *
R1683	NRSA02J-562X	MG R	5.6kΩ 1/10W	J *
R1684	NRSA02J-473X	MG R	47kΩ 1/10W	J *
RESISTOR				
R1685-90	NRSA02J-103X	MG R	10kΩ 1/10W	J *
R1691-92	NRSA02J-123X	MG R	12kΩ 1/10W	J *
R1693-94	NRSA02J-103X	MG R	10kΩ 1/10W	J *
R1700	NRSA02J-080X	MG R	0.0Ω 1/10W	J *
R1701	NRSA02J-104X	MG R	100Ω 1/10W	J *
R1702	NRSA02J-823X	MG R	82kΩ 1/10W	J *
R1703-06	NRSA02J-102X	MG R	1kΩ 1/10W	J *
R1707	NRSA02J-103X	MG R	10kΩ 1/10W	J *
RESISTOR				
R1708	NRSA02J-102X	MG R	1kΩ 1/10W	J *
R1709	NRSA02J-103X	MG R	10kΩ 1/10W	J *
R1710	NRSA02J-821X	MG R	820Ω 1/10W	J *
R1711	NRSA02J-102X	MG R	1kΩ 1/10W	J *
R1713-14	NRSA02J-103X	MG R	10kΩ 1/10W	J *
R1716	NRSA02J-103X	MG R	10kΩ 1/10W	J *
R1718	NRSA02J-102X	MG R	1kΩ 1/10W	J *
R1719	NRSA02J-101X	MG R	100Ω 1/10W	J *
RESISTOR				
R1720	NRSA02J-102X	MG R	1kΩ 1/10W	J *
R1721-23	NRSA02J-472X	MG R	4.7kΩ 1/10W	J *
R1724-26	NRSA02J-821X	MG R	820Ω 1/10W	J *
R1727	NRSA02J-152X	MG R	15kΩ 1/10W	J *
R1728	NRSA02J-102X	MG R	10kΩ 1/10W	J *
R1729	NRSA02J-683X	MG R	68kΩ 1/10W	J *
R1730	NRSA02J-223X	MG R	22kΩ 1/10W	J *
R1731	NRSA02J-562X	MG R	5.6kΩ 1/10W	J *
RESISTOR				
R1732	NRSA02J-103X	MG R	10kΩ 1/10W	J *
R1733	NRSA02J-222X	MG R	2.2kΩ 1/10W	J *
R1734	NRSA02J-103X	MG R	10kΩ 1/10W	J *
R1735-36	NRSA02J-682X	MG R	6.8kΩ 1/10W	J *
R1738	NRSA02J-103X	MG R	18kΩ 1/10W	J *
R1739	NRSA02J-331X	MG R	330Ω 1/10W	J *
R1740-42	NRSA02J-103X	MG R	10kΩ 1/10W	J *
R1743	NRSA02J-222X	MG R	2.2kΩ 1/10W	J *
RESISTOR				
R1744-46	NRSA02J-103X	MG R	10kΩ 1/10W	J *
R1747	NRSA02J-102X	MG R	1kΩ 1/10W	J *
R1748	NRSA02J-103X	MG R	10kΩ 1/10W	J *
RESISTOR				
R1751-52	NRSA02J-103X	MG R	10kΩ 1/10W	J *
R1752	NRSA02J-472X	MG R	4.7kΩ 1/10W	J *
R1754	NRSA02J-103X	MG R	10kΩ 1/10W	J *
R1755	NRSA02J-472X	MG R	4.7kΩ 1/10W	J *
R1756-57	NRSA02J-103X	MG R	10kΩ 1/10W	J *
R1758-59	NRSA02J-221X	MG R	220Ω 1/10W	J *
R1760	NRSA02J-102X	MG R	1kΩ 1/10W	J *
R1761-65	NRSA02J-221X	MG R	220Ω 1/10W	J *
RESISTOR				
R1766	NRSA02J-103X	MG R	10kΩ 1/10W	J *
R1767	NRSA02J-104X	MG R	100kΩ 1/10W	J *
R1768	NRSA02J-823X	MG R	82kΩ 1/10W	J *
R1770	NRSA02J-103X	MG R	10kΩ 1/10W	J *
R1771	NRSA02J-392X	MG R	3.9kΩ 1/10W	J *
R1772-74	NRSA02J-103X	MG R	10kΩ 1/10W	J *
R1773-76	NRSA02J-563X	MG R	56kΩ 1/10W	J *
R1777	NRSA02J-223X	MG R	220Ω 1/10W	J *
RESISTOR				
R1778	NRSA02J-103X	MG R	10kΩ 1/10W	J *
R1779	NRSA02J-333X	MG R	33kΩ 1/10W	J *
R1780	NRSA02J-104X	MG R	100kΩ 1/10W	J *
R1781	NRSA02J-103X	MG R	10kΩ 1/10W	J *
R1793	NRSA02J-102X	MG R	1kΩ 1/10W	J *
R1794	NRSA02J-152X	MG R	1.5kΩ 1/10W	J *
R1795	NRSA02J-102X	MG R	1kΩ 1/10W	J *
R1796	NRSA02J-103X	MG R	10kΩ 1/10W	J *
RESISTOR				
R1797	NRSA02J-102X	MG R	1kΩ 1/10W	J *
R1820	NRSA02J-332X	MG R	33kΩ 1/10W	J *
R1880-82	NRSA02J-102X	MG R	1kΩ 1/10W	J *
R1883	NRSA02J-473X	MG R	47kΩ 1/10W	J *
R1884-86	NRSA02J-103X	MG R	10kΩ 1/10W	J *
R1888-89	NRSA02J-103X	MG R	10kΩ 1/10W	J *
R1890	NRSA02J-221X	MG R	220Ω 1/10W	J *
R1891	NRSA02J-273X	MG R	27kΩ 1/10W	J *
RESISTOR				
R1892-96	NRSA02J-221X	MG R	220Ω 1/10W	J *
R1897	QRC02J-220	OM R	22Ω 2W	J *
R1901	NRSA02J-101X	MG R	100Ω 1/10W	J *
R1902	NRSA02J-223X	MG R	220Ω 1/10W	J *
R1903	NRSA02J-472X	MG R	4.7kΩ 1/10W	J *
R1904	NRSA02J-223X	MG R	220Ω 1/10W	J *
R1905	NRSA02J-102X	MG R	1kΩ 1/10W	J *
RESISTOR				
C1001	NCB21HK-104X	CHIP CAP.	0.1μF 50V	K *
C1002	QETN1CM-1072	E CAP.	100μF 50V	M *
C1003	NCB21HK-104X	CHIP CAP.	0.1μF 50V	K *
C1004	QETN1CM-1072	E CAP.	100μF 50V	M *
C1005	NCB21HK-104X	CHIP CAP.	0.1μF 50V	K *
C1006	QETN1CM-2272	E CAP.	2200pF 50V	K *
C1007	NCB21HK-222X	C CAP.	2200pF 50V	K *
C1008	QETN1CM-1062	E CAP.	10pF 50V	M *
CAPACITOR				
C1101-02	QETN1CM-1072	E CAP.	100pF 16V	M *
C1104	QETN1CM-4762	E CAP.	47μF 16V	M *
C1105	QETN1CM-4742	BP E CAP.	0.47μF 50V	M *
C1106	QETN1CM-1062	E CAP.	10μF 50V	M *
C1107	QETN1CM-2272	E CAP.	220pF 10V	M *
C1121-22	NCB21HK-103X	C CAP.	0.01pF 50V	K *
C1123	QETN1CM-4762	E CAP.	47μF 16V	M *
C1124-25	NCB21HK-103X	C CAP.	0.01pF 50V	K *
CAPACITOR				
C1128	QETN1CM-1072	E CAP.	100pF 16V	M *
C1129	QETN1CM-4762	E CAP.	47μF 16V	M *
C1130	NCB21HK-103X	C CAP.	0.01pF 50V	K *
C1131	QETN1CM-4762	E CAP.	47μF 16V	M *
C1132	NCB21HK-103X	C CAP.	0.01pF 50V	K *
C1134	NCB21HK-103X	C CAP.	0.01pF 50V	K *
C1135	NCB21HK-181X	C CAP.	180pF 50V	J *
C1136-39	NCB21HK-103X	C CAP.	0.01μF 50V	K *
C1140	QETN1CM-4762	E CAP.	47μF 16V	M *
CAPACITOR				
C1141	NCB21HK-103X	C CAP.	0.01μF 50V	K *
C1151	QETN1CM-2272	E CAP.	220pF 50V	J *
C1152	NCB21HK-103X	C CAP.	0.01μF 50V	K *
C1153	QETN1CM-1072	E CAP.	100pF 50V	M *
C1154	NCB21HK-103X	C CAP.	0.01μF 50V	K *
C1155	QETN1CM-2272	E CAP.	220pF 50V	J *
C1156	NCB21HK-103X	C CAP.	0.01μF 50V	K *
C1157	QETN1CM-4762	E CAP.	47μF 16V	M *
CAPACITOR				
C1158	QETN1CM-2272	E CAP.	220pF 50V	J *
C1159-98	NCB21HK-104X	C CAP.	0.1μF 50V	K *
C1160	QFC21AJ-104Z	M CAP.	0.1μF 100V	J *
C1161	NCB21HK-104X	C CAP.	0.1μF 50V	K *
C1162	QFC21AJ-104Z	M CAP.	0.1μF 100V	J *
C1163-65	QETN1CM-1062	E CAP.	10μF 50V	M *
C1167-88	QETN1CM-4762	E CAP.	47μF 16V	M *
CAPACITOR				
C1189-90	QETN0JM-228Z	E CAP.	2200pF 6.3V	M *
C1192	NCB21HK-680X	C CAP.	68pF 50V	J *
C1196-98	NCB21HK-104X	C CAP.	0.1μF 50V	K *
C1241	QETN1CM-1052	E CAP.	1μF 50V	M *
C1245	NDC21HK-121X	C CAP.	220pF 50V	J *
C1252	NDC21HK-330X	C CAP.	33pF 50V	J *
C1263-65	QETN1CM-1062	E CAP.	10μF 50V	M *
C1287-88	QETN1CM-4762	E CAP.	47μF 16V	M *
CAPACITOR				
C1288	QETN1CM-2272	E CAP.	220pF 16V	M *
C1289	NCB21HK-104X	C CAP.	0.1μF 50V	K *
C1290	QETN1CM-4762	E CAP.	47μF 16V	M *
C1294	NCB21HK-104X	C CAP.	0.1μF 50V	K *
C1295	QETN1CM-1052	E CAP.	1μF 50V	M *
C1304	QETN1CM-228Z	E CAP.	2200pF 35V	M *
C1306	NCB21HK-223X	C CAP.	0.02μF 50V	K *
C1307-08	QETN1CM-1052	E CAP.	1μF 50V	M *
C1309	NCB21HK-390X	C CAP.	39pF 50V	J *
C1311-13	NCB21HK-104X	C CAP.	0.1μF 50V	K *
C1314	NCB21HK-222X	C CAP.	2200pF 50V	K *
C1315	NCB21HK-474X	C CAP.	0.47μF 16V	M *
CAPACITOR				

Symbol No.	Part No.	Part Name	Description	Local
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CAPACITOR

C1419	NCB21HK-682X	C CAP.	6800pF	50V K *
C1461	QET11HM-226Z	E CAP.	22pF	50V M *
C1551-52	NCB21CK-224X	C CAP.	0.22pF	16V K *
C1553	QET11EM-476Z	E CAP.	47pF	25V M *
C1554-55	NCB21CK-224X	C CAP.	0.22pF	16V K *
C1601-2	QDC21HJ-2R0Z	C CAP.	2.0pF	50V J *
C1603-04	NCB21HK-103X	C CAP.	0.01pF	50V K *
C1605-06	QET11HM-106Z	E CAP.	10pF	50V M *

C1607-08	MCF21E2-104X	C CAP.	0.1pF	25V Z *
C1609-10	QET11HM-105Z	E CAP.	1pF	50V M *
C1613-14	NDC21HJ-471X	C CAP.	470pF	50V J *
C1615	MCF21E2-104X	C CAP.	0.1pF	25V Z *
C1616-18	QET11HM-106Z	E CAP.	10pF	50V M *
C1619	MCF21E2-104X	C CAP.	0.1pF	25V Z *
C1620	QET11HM-106Z	E CAP.	10pF	50V M *
C1621-24	NCB21HK-102X	C CAP.	1000pF	50V K *

C1625-26	NDC21HJ-391X	C CAP.	390pF	50V J *
C1627-28	NCB21HK-102X	C CAP.	1000pF	50V K *
C1629	NCB21HK-103X	C CAP.	0.01pF	50V K *
C1630	MCF21E2-104X	C CAP.	0.1pF	25V Z *
C1631	QET11HM-107Z	E CAP.	100pF	16V K *
C1632	MCF21E2-104X	C CAP.	0.1pF	25V Z *
C1643	QET11HM-105Z	E CAP.	1pF	50V M *
C1644-45	NDC21HJ-470X	C CAP.	47pF	50V J *

C1646	NDC21HJ-820X	C CAP.	82pF	50V J *
C1647	NCB21HK-472X	C CAP.	4700pF	50V K *
C1648	NDC21HJ-180X	C CAP.	18pF	50V J *
C1652-53	QET11HM-105Z	E CAP.	1pF	50V M *
C1654	QET11HM-107Z	E CAP.	100pF	16V K *
C1655	QET11HM-106Z	E CAP.	10pF	50V M *
C1656-57	NCB21HK-224X	C CAP.	0.22pF	50V Z *
C1658	QET11HM-228	E CAP.	2200pF	50V M *

C1661-62	MCF21H-224X	C CAP.	0.22pF	50V Z *
C1663-64	QET11HM-108	E CAP.	1000pF	35V M *
C1667	QET11HM-227Z	E CAP.	220pF	16V K *
C1668-69	QET11HM-105Z	E CAP.	1pF	50V M *
C1670	QET11HM-106Z	E CAP.	10pF	50V M *
C1671	MCF21E2-476Z	E CAP.	47pF	16V M *
C1672	NDC21HJ-100X	C CAP.	10pF	50V J *
C1673	QET11HM-105Z	E CAP.	1pF	50V M *

C1674	NDC21HJ-100X	C CAP.	10pF	50V J *
C1675	QET11HM-105Z	E CAP.	1pF	50V M *
C1679	QET11HM-106Z	E CAP.	10pF	50V M *
C1680-81	NDC21HJ-221X	C CAP.	220pF	50V J *
C1682	QET11HM-227Z	E CAP.	220pF	16V M *
C1701	NDC21HJ-471X	C CAP.	470pF	50V J *
C1702	NCB21HK-682X	C CAP.	6800pF	50V K *
C1703	NCB21HK-104X	CHIP CAP.	0.1pF	50V K *

C1704	QET11HM-107Z	E CAP.	100pF	10V M *
C1705-06	NDC21HJ-3R0X	C CAP.	2.0pF	50V J *
C1707	NCB21HK-104X	CHIP CAP.	0.1pF	50V K *
C1708	NCB21HK-333X	C CAP.	0.033pF	50V K *
C1709	NCB21HK-104	CHIP CAP.	0.1pF	50V K *
C1710	QET11HM-106Z	E CAP.	47pF	25V M *
C1711	QET11HM-104X	CHIP CAP.	0.1pF	50V K *
C1712	NCB21HK-333X	C CAP.	0.033pF	50V K *

C1713	NCB21HK-104X	CHIP CAP.	0.1pF	50V K *
C1714	QET11HM-474Z	E CAP.	0.47pF	50V M *
C1715	QET11HM-476Z	E CAP.	47pF	16V M *
C1717	QET11HM-106Z	E CAP.	10pF	50V M *
C1718	NDC21HJ-471X	C CAP.	470pF	50V J *
C1719	NDC21HJ-105X	C CAP.	1pF	16V Z *
C1720	NCB21HK-102X	C CAP.	1000pF	50V K *
C1757	NCB21HK-471X	C CAP.	470pF	50V J *

C1758	QET11HM-227Z	E CAP.	220pF	10V M *
C1759	NCB21HK-104X	CHIP CAP.	0.1pF	50V K *
C1760-61	NCB21HJ-150X	C CAP.	15pF	50V J *

Symbol No.	Part No.	Part Name	Description	Local
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CAPACITOR

C1762	NCB21HK-104X	CHIP CAP.	0.1pF	50V K *
C1763	QET11HM-476Z	E CAP.	47pF	16V M *
C1764	NCB21HK-104X	CHIP CAP.	0.1pF	50V K *
C1766-68	NCB21HK-104X	CHIP CAP.	0.1pF	50V K *
C1774	NDC21HJ-151X	C CAP.	150pF	50V J *
C1780	NCB21HK-104X	CHIP CAP.	0.1pF	50V K *
C1781	NDC21HJ-103X	C CAP.	100pF	50V J *
C1782	NCB21HK-102X	C CAP.	1000pF	50V K *

TRANSFORMER

T1101	CE42697-001	LOWPASS FILTER		
T1111	CE42697-001	LOWPASS FILTER		
T1121	CE42697-001	LOWPASS FILTER		

COIL

L1001-02	QQL01BK-8R2Z	COIL	8.2uH	*
L1003	QQL01BK-221Z	COIL	220uH	*
L1004	QQL01BK-5R6Z	COIL	5.6uH	*
L1101	QRN143J-0R0X	C R	0.001 1/4W J	*
L1102-05	QRN038J-220Z	COIL	22uH	*
L1111	QRN038J-220Z	COIL	22uH	*
L1121	QRN038J-330Z	COIL	33uH	*
L1301	QQL01BK-3R0Z	COIL	39uH	*

DIODE

D1201-11	MA3130/H/-X	ZENER DIODE		*
D1214-15	MA3130/H/-X	ZENER DIODE		*
D1402	BYD33D-T3	SI.DIODE		*
D1403-04	MA3330/L/-X	ZENER DIODE		*
D1461	MA111-X	SI.DIODE		*
D1462	MA3220/W/-X	ZENER DIODE		*
D1502	MA111-X	SI.DIODE		*
D1504	MA111-X	SI.DIODE		*
D1653-54	MA3330/L/-X	ZENER DIODE		*
D1658	MA153A-X	SI.DIODE		*
D1660	MA111-X	SI.DIODE		*
D1661	MA153A-X	SI.DIODE		*
D1664-65	MA111-X	SI.DIODE		*
D1666-67	MA3150/W/-X	ZENER DIODE		*
D1701-02	MA111-X	SI.DIODE		*
D1704	15S244-T2	SI.DIODE		*
D1708	MA111-X	SI.DIODE		*
D1709	MA3068/W/-X	ZENER DIODE		*
D1710	MA111-X	SI.DIODE		*
D1712	MA111-X	SI.DIODE		*
D1751-53	MA111-X	SI.DIODE		*
D1754	MA3062/W/-X	ZENER DIODE		*
D1771-74	MA3056/W/-X	ZENER DIODE		*
D1901	MA3130/H/-X	ZENER DIODE		*

OTHERS

C1650-054	CEM5009-054	I.C. SOCKET		*
CN1002	CH108N-25T-AE	FFC CONNECTOR		*
CN1008	CHA401B-35P-J	HQ PLUG		*
K1001	QRN143J-0R0X	C R	0.001 1/4W J	*
K1009	QRN143J-0R0X	C R	0.001 1/4W J	*
K1101	CE4143J-001Z	BEADS CORE		*
K1401	CE4143J-001Z	BEADS CORE		*
K1701	CE4143J-001Z	BEADS CORE		*

No. 51551

Symbol No.	Part No.	Part Name	Description	Local
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TRANSISTOR

Q1101-04	2SC2412K/QR/-X	S1. TRANSISTOR		*
Q1111	2SC2412K/QR/-X	S1. TRANSISTOR		*
Q1122	2SC2412K/QR/-X	S1. TRANSISTOR		*
Q1133-14	2SC2412K/QR/-X	S1. TRANSISTOR		*
Q1121	2SC2412K/QR/-X	S1. TRANSISTOR		*
Q1122	2SC2412K/QR/-X	S1. TRANSISTOR		*
Q1123-24	2SC2412K/QR/-X	S1. TRANSISTOR		*
Q1131-32	2SC2412K/QR/-X	S1. TRANSISTOR		*
Q1131-33	2SC2412K/QR/-X	S1. TRANSISTOR		*
Q1131-34	2SC2412K/QR/-X	S1. TRANSISTOR		*
Q1131-35	2SC2412K/QR/-X	S1. TRANSISTOR</td		

△	Symbol No.	Part No.	Part Name	Description	Local
RESISTOR					
R2586	QRA14CF-7501Y	MF R	7.5kΩ 1/4W F		*
R2587	QRA14CF-7201Y	MF R	2.2kΩ 1/4W F		*
R2588	QRE14LJ-103Y	C R	10kΩ 1/4W J	*	*
R2901	QRF104K-3R5	UNF R	3.9Ω 10W K	*	*
R2902	QRE12LJ-331Y	C R	330Ω 1/2W J	*	*
R2903-04	QRE12LJ-474Y	C R	470kΩ 1/2W J	*	*
R2905	QRL039J-823	OM R	82kΩ 3W J	*	*
R2906	QRG039J-683	OM R	68kΩ 3W J	*	*
△ R2907	QRZ9017-2R2	FUSI. RESISTOR	2.2Ω 1/4W J	*	*
R2908	QRE12LJ-152Y	C R	1.5kΩ 1/2W J	*	*
R2909	QRT029J-839	MF R	0.39Ω 2W J	*	*
R2910	QRM059J-822	MF R	0.22Ω 5W J	*	*
R2911	QRE12LJ-681Y	C R	680Ω 1/2W J	*	*
R2912	QRE12LJ-332Y	C R	3.3kΩ 1/2W J	*	*
R2913	QRL039J-423	OM R	82kΩ 3W J	*	*
R2923	QRE12LJ-102Y	C R	1kΩ 1/2W J	*	*
R2951	QRF074J-102	UNF R	1kΩ 7W J	*	*
R2952	QRG029J-103	OM R	10kΩ 2W J	*	*
R2953	QRG029J-183	OM R	18kΩ 2W J	*	*
R2954	QRE14LJ-330Y	C R	33Ω 1/4W J	*	*
R2955	QRE14LJ-681Y	C R	680Ω 1/4W J	*	*
R2956	QRX029J-847	MF R	0.47Ω 2W J	*	*
R2957	QRG029J-100	OM R	10Ω 2W J	*	*
R2960	QRE14LJ-153Y	C R	15kΩ 1/4W J	*	*
R2961	QRE14LJ-182Y	C R	1.8kΩ 1/4W J	*	*
R2962	QRE14LJ-153Y	C R	15kΩ 1/4W J	*	*
R2963	QRE14LJ-682Y	C R	6.8kΩ 1/4W J	*	*
R2968	QRE14LJ-103Y	C R	10kΩ 1/4W J	*	*
R2969	QRE14LJ-682Y	C R	6.8kΩ 1/4W J	*	*
R2970	QRE14LJ-822Y	C R	8.2kΩ 1/4W J	*	*
R2971	QRE14LJ-682Y	C R	6.8kΩ 1/4W J	*	*
R2983	QRE14LJ-122Y	C R	1.2kΩ 1/4W J	*	*
R2984	QRE14LJ-104Y	C R	100kΩ 1/4W J	*	*
R2985-86	QRE14LJ-103Y	C R	10kΩ 1/4W J	*	*
R2987	QRE12LJ-680Y	C R	680Ω 1/4W J	*	*
△ R2991	QRZ0057-825	C R	8.2MΩ 1W J	*	*
CAPACITOR					
C2451	QFCS31HJ-4702	C CAP.	47pF 50V J	*	*
C2452	QFV71HJ-1042	MF CAP.	0.1μF 50V J	*	*
C2453	QETNIEM-4762	E CAP.	47pF 25V M	*	*
C2455	QFLC1HJ-1022	M CAP.	1000pF 50V J	*	*
C2456	QFM72D1-1222	M CAP.	1200pF 200V J	*	*
C2457	QFM72D1-1522	M CAP.	1500pF 200V J	*	*
C2458	QEZ0471-2262	E CAP.	4.7pF 50V M	*	*
C2461	QFLC1HJ-1822	M CAP.	1800pF 50V J	*	*
C2501	QCB32HK-3312	C CAP.	330pF 500V K	*	*
C2502	QFB72Dk-103	M CAP.	0.01μF 200V K	*	*
C2503	QFV71HJ-2242	MF CAP.	0.22μF 50V J	*	*
△ C2521	QF02112-112	MPP CAP.	1100pF 1.4KV±2.5%	*	*
△ C2522	QF02117-1222	MPP CAP.	0.0122μF 4KV±2.5%	*	*
C2523	QFP72Dk-393	M CAP.	0.039μF 200V K	*	*
△ C2524	QFP32GJ-273	PP CAP.	0.027μF 400V J	*	*
C2525	QFP2014-125	MPP CAP.	1.2μF 250V J	*	*
C2526	QFZ0194-534	MPP CAP.	0.53μF 250V J	*	*
C2529	QCB32HK-5612	C CAP.	560pF 500V K	*	*
C2532	QETM2CM-227	E CAP.	220pF 160V M	*	*
C2551	QCB32HK-1522	C CAP.	1500pF 500V K	*	*
C2552	QETNICM-1082	E CAP.	1000pF 16V M	*	*
C2553	QCB32HK-1522	C CAP.	1500pF 500V K	*	*
C2554	QETNICM-1082	E CAP.	1000pF 16V M	*	*
C2555	QENCIHM-3352	BP E CAP.	3.3μF 50V M	*	*
C2556	QCB32HK-1022	C CAP.	1000pF 500V K	*	*
C2557	QETNIEM-1062	E CAP.	10μF 250V M	*	*
C2561	QCB0122-681	C CAP.	680pF 2000V K	*	*
C2581	QETNICM-1072	E CAP.	100pF 16V M	*	*
TRANSFORMER					
T2501	QQR0882-001	HOR. DEF. TRANSF.		*	*
T2521	QQR076-001	PINC. TRANSF.		*	*
△ C2591	QH0054-002-12	FBT	(SERVICE)	*	*
△ C2592	CE2402-0011J	DAF TRANSF.		*	*
△ T2501	CETS129-0014	SW TRANSF.		*	*
△ T2521	QQT0147-001	POWER TRANSF.		*	*
COIL					
L2451	QQL43AJ-332	CHOKE COIL		*	*
L2452	QQL20B-0201	CHOKE COIL		*	*
L2522	QRO961-002	LINEARITY COIL		*	*
L2551	QQL018-560	HEATER CHOKE		*	*
L2901-02	QLA01X-1002	CHOKE COIL		*	*
L2951	QQL2018-460	HEATER CHOKE		*	*
L2952-54	QQL26A8-2102	COIL	22μH	*	*
L2955	QQR0518-001	CHOKE COIL		*	*
L2956	QQL2018-460	HEATER CHOKE		*	*
L2957	QQL26A8-2102	COIL	22μH	*	*
DIODE					
D2454	BY0330-T3	SI. DIODE		*	*
D2501	15581-T5	SI. DIODE		*	*
D2502	155133-T2	SI. DIODE		*	*
D2503	MTZ15B-T2	ZENER DIODE		*	*
D2521	V11CA-C1	SI. DIODE		*	*
D2522	FMV-3FU-F1	SI. DIODE		*	*
CAPACITOR					
C2582	QETNIEM-4762	E CAP.	47μF 25V M	*	*
C2583	QETNIAM-227	E CAP.	220μF 10V M	*	*
△ C2585	QFZ0194-534	MPP CAP.	0.53μF 250V J	*	*
C2586	QETNIAM-227	E CAP.	0.047μF AC25V M	*	*
△ C2587	QFZ0400-473	E CAP.	4700pF AC25V Z	*	*
△ C2588	QFZ0400-472	E CAP.	4700pF AC25V Z	*	*
△ C2589	QFZ0400-472	E CAP.	4700pF AC25V Z	*	*
△ C2590	QFZ0400-472	E CAP.	4700pF AC25V Z	*	*
△ C2591	QFZ0400-472	E CAP.	4700pF AC25V Z	*	*
CAPACITOR					
C2592	QETNIEM-4762	E CAP.	47μF 100V M	*	*
C2593	QETNIAM-227	E CAP.	220μF 10V M	*	*
△ C2595	QFZ0194-534	MPP CAP.	0.53μF 250V J	*	*
C2596	QETNIAM-227	E CAP.	0.047μF AC25V M	*	*
△ C2597	QFZ0400-473	E CAP.	4700pF AC25V Z	*	*
△ C2598	QFZ0400-472	E CAP.	4700pF AC25V Z	*	*
△ C2599	QFZ0400-472	E CAP.	4700pF AC25V Z	*	*
TRANSFORMER					
T2501	QQR0882-001	HOR. DEF. TRANSF.		*	*
T2521	QQR076-001	PINC. TRANSF.		*	*
△ C2591	QH0054-002-12	FBT	(SERVICE)	*	*
△ C2592	CE2402-0011J	DAF TRANSF.		*	*
△ T2501	CETS129-0014	SW TRANSF.		*	*
△ T2521	QQT0147-001	POWER TRANSF.		*	*
TRANSFORMER					
T2501	QQR0882-001	HOR. DEF. TRANSF.		*	*
T2521	QQR076-001	PINC. TRANSF.		*	*
△ C2591	QH0054-002-12	FBT	(SERVICE)	*	*
△ C2592	CE2402-0011J	DAF TRANSF.		*	*
△ T2501	CETS129-0014	SW TRANSF.		*	*
△ T2521	QQT0147-001	POWER TRANSF.		*	*
TRANSFORMER					
T2501	QQR0882-001	HOR. DEF. TRANSF.		*	*
T2521	QQR076-001	PINC. TRANSF.		*	*
△ C2591	QH0054-002-12	FBT	(SERVICE)	*	*
△ C2592	CE2402-0011J	DAF TRANSF.		*	*
△ T2501	CETS129-0014	SW TRANSF.		*	*
△ T2521	QQT0147-001	POWER TRANSF.		*	*
TRANSFORMER					
T2501	QQR0882-001	HOR. DEF. TRANSF.		*	*
T2521	QQR076-001	PINC. TRANSF.		*	*
△ C2591	QH0054-002-12	FBT	(SERVICE)	*	*
△ C2592	CE2402-0011J	DAF TRANSF.		*	*
△ T2501	CETS129-0014	SW TRANSF.		*	*
△ T2521	QQT0147-001	POWER TRANSF.		*	*
TRANSFORMER					
T2501	QQR0882-001	HOR. DEF. TRANSF.		*	*
T2521	QQR076-001	PINC. TRANSF.		*	*
△ C2591	QH0054-002-12	FBT	(SERVICE)	*	*
△ C2592	CE2402-0011J	DAF TRANSF.		*	*
△ T2501	CETS129-0014	SW TRANSF.		*	*
△ T2521	QQT0147-001	POWER TRANSF.		*	*
TRANSFORMER					
T2501	QQR0882-001	HOR. DEF. TRANSF.		*	*
T2521	QQR076-001	PINC. TRANSF.		*	*
△ C2591	QH0054-002-12	FBT	(SERVICE)	*	*
△ C2592	CE2402-0011J	DAF TRANSF.		*	*
△ T2501	CETS129-0014	SW TRANSF.		*	*
△ T2521	QQT0147-001	POWER TRANSF.		*	*
TRANSFORMER					
T2501	QQR0882-001	HOR. DEF. TRANSF.		*	*
T2521	QQR076-001	PINC. TRANSF.		*	*
△ C2591	QH0054-002-12	FBT	(SERVICE)	*	*
△ C2592	CE2402-0011J	DAF TRANSF.		*	*
△ T2501	CETS129-0014	SW TRANSF.		*	*
△ T2521	QQT0147-001	POWER TRANSF.		*	*
TRANSFORMER					
T2501	QQR0882-001	HOR. DEF. TRANSF.		*	*
T2521	QQR076-001	PINC. TRANSF.		*	*
△ C2591	QH0054-002-12	FBT	(SERVICE)	*	*
△ C2592	CE2402-0011J	DAF TRANSF.		*	*
△ T2501	CETS129-0014	SW TRANSF.		*	*
△ T2521	QQT0147-001	POWER TRANSF.		*	*
TRANSFORMER					
T2501	QQR0882-001	HOR. DEF. TRANSF.		*	*
T2521	QQR076-001	PINC. TRANSF.		*	*
△ C2591	QH0054-002-12	FBT	(SERVICE)	*	*
△ C2592	CE2402-0011J	DAF TRANSF.		*	*
△ T2501	CETS129-0014	SW TRANSF.		*	*
△ T2521	QQT0147-001	POWER TRANSF.		*	*
TRANSFORMER					
T2501	QQR0882-001	HOR. DEF. TRANSF.		*	*
T2521	QQR076-001	PINC. TRANSF.		*	*
△ C2591	QH0054-002-12	FBT	(SERVICE)	*	*
△ C2592	CE2402-0011J	DAF TRANSF.		*	*
△ T2501	CETS129-0014	SW TRANSF.		*	*
△ T2521	QQT0147-001	POWER TRANSF.		*	*
TRANSFORMER					
T2501	QQR0882-001	HOR. DEF. TRANSF.		*	*
T2521	QQR076-001	PINC. TRANSF.		*	*
△ C2591	QH0054-002-12	FBT	(SERVICE)	*	*
△ C2592	CE2402-0011J	DAF TRANSF.		*	*
△ T2501	CETS129-0014	SW TRANSF.		*	*
△ T2521	QQT0147-001	POWER TRANSF.		*	*
TRANSFORMER					
T2501	QQR0882-001	HOR. DEF. TRANSF.		*	*
T2521	QQR076-001	PINC. TRANSF.		*	*
△ C2591	QH0054-002-12	FBT	(SERVICE)	*	*
△ C2592	CE2402-0011J	DAF TRANSF.		*	*
△ T2501	CETS129-0014	SW TRANSF.		*	*
△ T2521	QQT0147-001	POWER TRANSF.		*	*
TRANSFORMER					
T2501	QQR0882-001	HOR. DEF. TRANSF.		*	*
T2521</					

Symbol No.	Part No.	Part Name	Description	Local
CAPACITOR				
C3218	QETW2EM-336	E CAP.	33μF 250V	M *
C3219	QFZ0097-223	MN CAP.	0.022μF 1250V	K *
C3221	QETW2EM-1062	E CAP.	10μF 250V	M *
C3201	QETW1CM-1072	E CAP.	100μF 16V	M *
C3302	QFLC1CM-1032	M CAP.	0.01μF 50V	J *

Symbol No.	Part No.	Part Name	Description	Local
COIL				
L3201-03	QQL01BK-4R72	COIL	4.7μH	*
L3301	QQL26AJ-1022	COIL	1000μH	

Symbol No.	Part No.	Part Name	Description	Local
D3101-02	RH15-T3	SI.DIODE		*
D3151	15S133-T2	SI.DIODE		*
D3204-06	EU01N-T2	SI.DIODE		*
D3208-10	EU124-400A-T2	SI.DIODE		*
D3301	IS5252-T2	SI.DIODE		*
D3302-03	IS5133-T2	SI.DIODE		*

Symbol No.	Part No.	Part Name	Description	Local
Q3102-03	2SC3311A/QR-T	SI.TRANSISTOR		*
Q3104	2SA1209A/QR-T	SI.TRANSISTOR		*
Q3105	2SA1837	SI.TRANSISTOR		*
Q3106	2SC4793	SI.TRANSISTOR		*
Q3301	2SA1015/YG-T	SI.TRANSISTOR		*
Q3302	2SC2655/Y-T	SI.TRANSISTOR		*
Q3303	2SA1015/YG-T	SI.TRANSISTOR		*
Q3304-05	2SC3311A/QR-T	SI.TRANSISTOR		*

Symbol No.	Part No.	Part Name	Description	Local
IC3201-03	TDA6111Q	I.C.(MONO-ANA)		*

Symbol No.	Part No.	Part Name	Description	Local
K3101-04	CE41492-001Z	CHOKE COIL		*
K3105	CE41433-001Z	BEADS CORE		*
SK3201-03	CE42447-501	ARRESTOR		
SK3001	CE42670-001	C.R.T.SOCKET		

Symbol No.	Part No.	Part Name	Description	Local
D6101-04	MTZ127B-T2	ZENER DIODE		*
D6105	MTZ15.1B-T2	ZENER DIODE		*
D6107	15S133-T2	SI.DIODE		*
D6108	MA700A-T2	SI.DIODE		*
D6110-11	15S133-T2	SI.DIODE		*

Symbol No.	Part No.	Part Name	Description	Local
D6101	DTC144ES-A-T	DIGI.TRANSISTOR		*
D6102	2SA1015/YG-T	SI.TRANSISTOR		*
D6104	2SA1015/YG-T	SI.TRANSISTOR		*
D6105	DTC144ES-A-T	DIGI.TRANSISTOR		*
D6106-07	DTC323TS-T	DIGI.TRANSISTOR		*

Symbol No.	Part No.	Part Name	Description	Local
IC6101-02	TDA2052V	I.C.(MONO-ANA)		*

Symbol No.	Part No.	Part Name	Description	Local
K6001-02	CE41433-001Z	BEADS CORE		*

AUDIO PW BOARD ASS'Y (SMD-6002A-U2)

RESISTOR

Symbol No.	Part No.	Part Name	Description	Local
R6101	QRE143J-2R2Y	C.R	2.2Ω 1/4W	J *
R6102	QRE141J-562Y	C.R	5.6kΩ 1/4W	J *
R6103	QRE141J-223Y	C.R	22kΩ 1/4W	J *
R6104	QRE141J-681Y	C.R	68kΩ 1/4W	J *
R6105-06	QRE141J-223Y	C.R	22kΩ 1/4W	J *
R6107	QRE141J-183Y	C.R	18kΩ 1/4W	J *
R6108	QRE143J-2R2Y	C.R	2.2Ω 1/4W	J *
R6109	QRE141J-562Y	C.R	5.6kΩ 1/4W	J *
R6110	QRE141J-223Y	C.R	22kΩ 1/4W	J *
R6111	QRE141J-681Y	C.R	68kΩ 1/4W	J *
R6112-13	QRE141J-223Y	C.R	22kΩ 1/4W	J *
R6114	QRE141J-183Y	C.R	18kΩ 1/4W	J *
R6115	QRE143J-103X	C.R	10kΩ 1/4W	J *
R6116	QRE141J-273Y	C.R	27kΩ 1/4W	J *
R6118-19	QRE141J-104Y	C.R	100kΩ 1/4W	J *
R6122-23	QRE141J-104Y	C.R	100kΩ 1/4W	J *
R6124	QRE141J-472Y	C.R	4.7Ω 1/4W	J *
R6125-26	QRE141J-223Y	C.R	22kΩ 1/4W	J *

CAPACITOR

Symbol No.	Part No.	Part Name	Description	Local
C6101	QFV71HJ-684Z	MF CAP.	0.68μF 50V	J *
C6102-03	QETW1EM-228	E CAP.	2200pF 25V	M *
C6104	QETW1EM-476Z	E CAP.	47pF 50V	M *
C6105	QETW1HM-105Z	E CAP.	1μF 50V	M *
C6106	QETW1HM-107Z	E CAP.	100μF 16V	M *
C6108	QFV71HJ-684Z	MF CAP.	0.68μF 50V	J *
C6109-10	QFV71HJ-104Z	MF CAP.	0.1μF 50V	J *
C6111	QETW1HM-476Z	E CAP.	47pF 50V	M *
C6112	QETW1HM-105Z	E CAP.	1μF 50V	M *
C6113	QETW1HM-107Z	E CAP.	100μF 16V	M *
C6115-16	QFV71HJ-684Z	MF CAP.	0.68μF 50V	J *
C6125-26	QCS31HJ-181Z	C.CAP.	180pF 50V	J *
C6127	QFLC1HM-103Z	M CAP.	0.01μF 50V	J *

DIODE

Symbol No.	Part No.	Part Name	Description	Local
D6101	MTZ127B-T2	ZENER DIODE		*
D6105	MTZ15.1B-T2	ZENER DIODE		*
D6107	15S133-T2	SI.DIODE		*
D6108	MA700A-T2	SI.DIODE		*
D6110-11	15S133-T2	SI.DIODE		*

Symbol No.	Part No.	Part Name	Description	Local
D6101	DTC144ES-A-T	DIGI.TRANSISTOR		*
D6102	2SA1015/YG-T	SI.TRANSISTOR		*
D6104	2SA1015/YG-T	SI.TRANSISTOR		*
D6105	DTC144ES-A-T	DIGI.TRANSISTOR		*
D6106-07	DTC323TS-T	DIGI.TRANSISTOR		*

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Symbol No.	Part No.	Part Name	Description	Local
IC6101-02	TDA2052V	I.C.(MONO-ANA)		*

OTHERS

Symbol No.	Part No.	Part Name	Description	Local
K6001-02	CE41433-001Z	BEADS CORE		*

FRONT CONTROL PW BOARD ASS'Y (SMD-8002A-U2)

RESISTOR

Symbol No.	Part No.	Part Name	Description	Local
R8001-02	QRE12J-151Y	C.R	15kΩ 1/2W	J *
R8003	QRE141J-222Y	C.R	2.2kΩ 1/4W	J *
R8004	QRE141J-472Y	C.R	4.7kΩ 1/4W	J *
R8005	QRE141J-561Y	C.R	5.6kΩ 1/4W	J *
R8007	QRE141J-103Y	C.R	10kΩ 1/4W	J *
R8008	QRE141J-682Y	C.R	6.8kΩ 1/4W	J *
R8009	QRE141J-105Y	C.R	10kΩ 1/4W	J *
R8010	QRE141J-183Y	C.R	18kΩ 1/4W	J *
R8011	QRE141J-123Y	C.R	12kΩ 1/4W	J *
R8012	QRE141J-273Y	C.R	27kΩ 1/4W	J *
R8013	QRE141J-332Y	C.R	3.3kΩ 1/4W	J *
R8014	QRE141J-123Y	C.R	12kΩ 1/4W	J *
R8020	QRE141J-562Y	C.R	5.6kΩ 1/4W	J *
R8035	QRE141J-381Y	C.R	390Ω 1/4W	J *
R8036-38	QRE141J-561Y	C.R	560Ω 1/4W	J *
R8039	QRE141J-821Y	C.R	820Ω 1/4W	J *

CAPACITOR

Symbol No.	Part No.	Part Name	Description	Local
C8001-02	QCB31HM-103Z	C.CAP.	0.01μF 50V	K *
C8003	QETW1HM-106Z	E.CAP.	10μF 25V	M *
C8004	QZ0210-104Z	C.CAP.	0.1μF 25V	Z *
C8005	QETW1HM-472Z	E.CAP.	47pF 25V	M *
C8010-11	QCB31HM-472Z	C.CAP.	4700pF 50V	K *
C8019	QETW1HM-107Z	E.CAP.	100μF 16V	M *
C8021	QZ0210-104Z	C.CAP.	0.1μF 25V	Z *
C8022	QETW1HM-472Z	E.CAP.	47pF 25V	M *
C8023	QZ0210-042Z	C.CAP.	0.1μF 25V	Z *
C8901	QZ0210-042Z	MF.CAP.	0.47μFAC275V	M *

COIL

Symbol No.	
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△ Symbol No.	Part No.	Part Name	Description	Local
RESISTOR				
R0232-33	NRSA02J-122X	MG R	1.2kΩ 1/10W	J *
R0301	NRSA02J-103X	MG R	10kΩ 1/10W	J *
R0401	NRSA02J-102X	MG R	1kΩ 1/10W	J *
R0402-03	NRSA02J-562X	MG R	5.6kΩ 1/10W	J *
R0404	NRSA02J-102X	MG R	1kΩ 1/10W	J *
R0431	NRSA02J-102X	MG R	1kΩ 1/10W	J *
R0432-33	NRSA02J-562X	MG R	5.6kΩ 1/10W	J *
R0434	NRSA02J-102X	MG R	1kΩ 1/10W	J *
R0451	NRSA02J-273X	MG R	27kΩ 1/10W	J *
R0452	NRSA02J-683X	MG R	68kΩ 1/10W	J *
R0453	NRSA02J-OR0X	MG R	0.01 1/10W	J *
R0454	NRSA02J-473X	MG R	47kΩ 1/10W	J *
R0455	NRSA02J-333X	MG R	33kΩ 1/10W	J *
R0456-57	NRSA02J-473X	MG R	47kΩ 1/10W	J *
R0458	NRSA02J-102X	MG R	1kΩ 1/10W	J *
R0459	NRSA02J-233X	MG R	22kΩ 1/10W	J *
R0460	NRSA02J-393X	MG R	39kΩ 1/10W	J *
R0461	NRSA02J-273X	MG R	27kΩ 1/10W	J *
R0462	NRSA02J-122X	MG R	1.2kΩ 1/10W	J *
R0463	NRSA02J-273X	MG R	27kΩ 1/10W	J *
R0464	NRSA02J-683X	MG R	68kΩ 1/10W	J *
R0465	NRSA02J-OR0X	MG R	0.01 1/10W	J *
R0466	NRSA02J-473X	MG R	47kΩ 1/10W	J *
R0467	NRSA02J-333X	MG R	33kΩ 1/10W	J *
R0468-69	NRSA02J-473X	MG R	47kΩ 1/10W	J *
R0470	NRSA02J-102X	MG R	1kΩ 1/10W	J *
R0471	NRSA02J-233X	MG R	22kΩ 1/10W	J *
R0472	NRSA02J-393X	MG R	39kΩ 1/10W	J *
R0473	NRSA02J-273X	MG R	27kΩ 1/10W	J *
R0474	NRSA02J-122X	MG R	1.2kΩ 1/10W	J *
R0475	NRSA02J-123X	MG R	12kΩ 1/10W	J *
R0476	NRSA02J-101X	MG R	100Ω 1/10W	J *
R0477	NRSA02J-223X	MG R	22kΩ 1/10W	J *
R0478	NRSA02J-101X	MG R	100Ω 1/10W	J *
R0479	NRSA02J-223X	MG R	22kΩ 1/10W	J *
R0480	NRSA02J-101X	MG R	100Ω 1/10W	J *
R0481-82	NRSA02J-223X	MG R	22kΩ 1/10W	J *
R0483	NRSA02J-183X	MG R	18kΩ 1/10W	J *
R0484	NRSA02J-223X	MG R	22kΩ 1/10W	J *
R0485-86	NRSA02J-103X	MG R	10kΩ 1/10W	J *
R0491	NRSA02J-101X	MG R	100Ω 1/10W	J *
R0492	NRSA02J-OR0X	MG R	0.01 1/10W	J *
R0501	NRSA02J-223X	MG R	22kΩ 1/10W	J *
R0502	NRSA02J-332X	MG R	3.3kΩ 1/10W	J *
R0503	NRSA02J-103X	MG R	10kΩ 1/10W	J *
R0504	NRSA02J-104X	MG R	100kΩ 1/10W	J *
R0505	NRSA02J-322X	MG R	3.3kΩ 1/10W	J *
R0506	NRSA02J-122X	MG R	1.2kΩ 1/10W	J *
R0507	NRSA02J-223X	MG R	22kΩ 1/10W	J *
R0508	NRSA02J-103X	MG R	10kΩ 1/10W	J *
R0509	NRSA02J-104X	MG R	100kΩ 1/10W	J *
R0510-11	NRSA02J-681X	MG R	68kΩ 1/10W	J *
R0512-13	NRSA02J-223X	MG R	22kΩ 1/10W	J *
R0514	NRSA02J-104X	MG R	100kΩ 1/10W	J *
R0516	NRSA02J-103X	MG R	10kΩ 1/10W	J *
R0517	NRSA02J-OR0X	MG R	0.01 1/10W	J *
R0518	NRSA02J-103X	MG R	10kΩ 1/10W	J *
R0519	NRSA02J-OR0X	MG R	0.01 1/10W	J *
CAPACITOR				
C0101	NCF21EZ-104X	C CAP.	0.1μF 25V	Z *
C0103	NDC21HJ-221X	C CAP.	220pF 50V	J *
C0104	NEH71CM-475X	E CAP.	4.7μF 50V	M
C0105	NCF21EZ-104X	C CAP.	0.1μF 25V	Z *
C0106-08	NEH71CM-475X	E CAP.	47μF 16V	M
C0109	NEH71HM-475X	E CAP.	4.7μF 50V	M
C0110	NDC21HJ-221X	C CAP.	220pF 50V	J *
C0111-12	NDC21HJ-100X	C CAP.	10pF 50V	J *
C0114-15	NEH71CM-476X	E CAP.	47μF 16V	M
C0115	NCF21EZ-104X	C CAP.	0.1μF 25V	Z *
C0117-19	NEH71HM-476X	E CAP.	47μF 16V	M
C0120	NCF21EZ-104X	C CAP.	0.1μF 25V	Z *
C0121-22	NEH71HM-476X	E CAP.	47μF 16V	M
C0123	NCF21EZ-104X	C CAP.	0.1μF 25V	Z *
C0124-27	NDC21HJ-221X	C CAP.	220pF 50V	J *
C0128	NEH71CM-476X	E CAP.	47μF 16V	M
C0129-33	NCF21EZ-104X	C CAP.	0.1μF 25V	Z *
C0134	NEH71CM-227X	E CAP.	220pF 50V	M
C0135	NCF21EZ-104X	C CAP.	0.1μF 25V	Z *
C0137	NEHE1EM-107X	E CAP.	100pF 25V	M
C0138	NEH71CM-476X	E CAP.	47μF 16V	M
C0139	NEHE1CM-227X	E CAP.	220pF 16V	M
C0142	NCF21EZ-104X	C CAP.	0.1μF 25V	Z *
C0144-45	NCF21EZ-104X	C CAP.	0.1μF 25V	Z *
C0146	NEHE1EM-107X	E CAP.	100pF 25V	M
C0147	NCB21HK-102X	C CAP.	1000pF 50V	K *
C0148-49	NCB21HK-222X	C CAP.	220pF 50V	K *
C0150	NEH71CM-106X	E CAP.	10pF 16V	M
C0201-02	NCF21EZ-105X	C CAP.	1pF 16V	Z *
C0203	NEHE1EM-107X	E CAP.	100pF 25V	M
C0204-05	NCF21EZ-105X	C CAP.	1pF 16V	Z *
C0205	NCF21EZ-105X	C CAP.	1pF 16V	Z *
C0209	NDC21HJ-470X	E CAP.	47pF 50V	J *
C0212	NDC21HJ-470X	C CAP.	47pF 50V	J *
C0213	NCF21EZ-105X	C CAP.	1pF 16V	Z *
C0214	NEHE1EM-107X	E CAP.	100pF 25V	M
C0217	NCF21EZ-105X	C CAP.	1pF 16V	Z *
C0218	NDC21HJ-470X	C CAP.	47pF 50V	J *
C0219	NCF21EZ-105X	C CAP.	1pF 16V	Z *
C0220	NDC21HJ-470X	C CAP.	47pF 50V	J *
C0223-25	NEH71CM-476X	E CAP.	47pF 16V	M
C0226-29	NRS02J-OR0X	MG R	0.02 1/10W	J *
C0301	NEH71CM-476X	E CAP.	47pF 16V	M
C0401	NEH71EM-226X	E CAP.	22pF 25V	M
C0402	NEH71CM-476X	E CAP.	47pF 16V	M
C0403-04	MCB21HK-227X	C CAP.	270pF 50V	K *
C0405-06	MCB21HK-105X	C CAP.	1pF 16V	Z *
C0407-10	NCF21EZ-104X	C CAP.	0.1μF 25V	Z *
C0431	NEH71EM-226X	E CAP.	22pF 25V	M
C0432	NEHE1CM-227X	E CAP.	220pF 16V	M
C0433-34	MCB21HK-227X	C CAP.	270pF 50V	K *
C0435	NCF21EZ-105X	C CAP.	1pF 16V	Z *
C0436-39	NCF21EZ-104X	C CAP.	0.1μF 25V	Z *
C0440	NCF21EZ-105X	C CAP.	1pF 16V	Z *
C0451	NCF21EZ-105X	C CAP.	1pF 16V	Z *
C0452	NDC21HJ-100X	C CAP.	10pF 50V	J *
C0453	NCB21HK-103X	C CAP.	0.01μF 50V	K *
C0454	NCB21EK-563X	C CAP.	0.056pF 25V	K
C0455	NEHE1EM-107X	E CAP.	100pF 25V	M
C0457	NCF21EZ-105X	C CAP.	1pF 16V	Z *
C0458	NCB21EK-563X	C CAP.	0.056pF 25V	K
C0459	NEHE1EM-107X	E CAP.	100pF 25V	M
C0460	NCB21HK-103X	C CAP.	0.01μF 50V	K *
C0461	NDC21HJ-100X	C CAP.	10pF 50V	J *
C0462	NCF21EZ-105X	C CAP.	1pF 16V	Z *
C0465-67	NCF21EZ-105X	C CAP.	1pF 16V	Z *
C0468	NEH71CM-476X	E CAP.	47pF 16V	M
C0471-72	NCF21EZ-105X	C CAP.	1pF 16V	Z *
C0473	NCB21HK-821X	C CAP.	820pF 50V	K *
C0474	NDC21HJ-470X	C CAP.	47pF 50V	J *
C0475	NEH71CM-476X	E CAP.	47pF 16V	M
C0476	NCF21EZ-105X	C CAP.	1pF 16V	Z *
C0479-80	NDC21HJ-820X	C CAP.	820pF 50V	J *

△ Symbol No.	Part No.	Part Name	Description	Local
CAPACITOR				
C0101	NCF21EZ-104X	C CAP.	0.1μF 25V	Z *
C0103	NDC21HJ-221X	C CAP.	220pF 50V	J *
C0104	NEH71HM-475X	E CAP.	4.7μF 50V	M
C0105	NCF21EZ-104X	C CAP.	0.1μF 25V	Z *
C0106-08	NEH71CM-475X	E CAP.	47μF 16V	M
C0109	NEH71HM-475X	E CAP.	4.7μF 50V	M
C0110	NDC21HJ-221X	C CAP.	220pF 50V	J *
C0111-12	NDC21HJ-100X	C CAP.	10pF 50V	J *
C0114-15	NEH71CM-476X	E CAP.	47μF 16V	M
C0115	NCF21EZ-104X	C CAP.	0.1μF 25V	Z *
C0117-19	NEH71HM-476X	E CAP.	47μF 16V	M
C0120	NCF21EZ-104X	C CAP.	0.1μF 25V	Z *
C0121-22	NEH71HM-476X	E CAP.	47μF 16V	M
C0123	NCF21EZ-104X	C CAP.	0.1μF 25V	Z *
C0124-27	NDC21HJ-221X	C CAP.	220pF 50V	J *
C0128	NEH71CM-476X	E CAP.	47μF 16V	M
C0129-33	NCF21EZ-104X	C CAP.	0.1μF 25V	Z *
C0134	NEH71CM-227X	E CAP.	220pF 16V	M
C0135	NCF21EZ-104X	C CAP.	0.1μF 25V	Z *
C0137	NEHE1EM-107X	E CAP.	100pF 25V	M
C0138	NEH71CM-476X	E CAP.	47μF 16V	M
C0201-02	NCF21EZ-105X	C CAP.	1pF 16V	Z *
C0202	NDC21HJ-100X	C CAP.	10pF 50V	J *
C0203	NEH71CM-476X	E CAP.	47μF 16V	M
C0204-05	NCF21EZ-105X	C CAP.	1pF 16V	Z *
C0205	NDC21HJ-470X	E CAP.	47pF 50V	J *
C0209	NDC21HJ-470X	C CAP.	47pF 50V	J *
C0212	NDC21HJ-470X	C CAP.	47pF 50V	J *
C0213	NCF21EZ-105X	C CAP.	1pF 16V	Z *
C0214	NEHE1EM-107X	E CAP.	100pF 25V	M
C0217	NCF21EZ-105X	C CAP.	1pF 16V	Z *
C0218	NDC21HJ-470X	C CAP.	47pF 50V	J *
C0219	NCF21EZ-105X	C CAP.	1pF 16V	Z *
C0220	NDC21HJ-470X	C CAP.	47pF 50V	J *
C0223-25	NEH71CM-476X	E CAP.	47pF 16V	M
C0226-29	NRS02J-OR0X	MG R	0.02 1/10W	J *
C0301	NEH71CM-476X	E CAP.	47pF 16V	M
C0401	NEH71EM-226X	E CAP.	22pF 25V	M
C0402	NEH71CM-476X	E CAP.	47pF 16V	M
C0403-04	MCB21HK-227X	C CAP.	270pF 50V	K *
C0405-06	MCB21HK-105X	C CAP.	1pF 16V	Z *
C0407-10	NCF21EZ-104X	C CAP.	0.1μF 25V	Z *
C0431	NEH71EM-226X	E CAP.	22pF 25V	M
C0432	NEHE1CM-227X	E CAP.	220pF 16V	M
C0433-34	MCB21HK-227X	C CAP.	270pF 50V	K *
C0435	NCF21EZ-105X	C CAP.	1pF 16V	Z *
C0436-39	NCF21EZ-104X	C CAP.	0.1μF 25V	Z *
C0440	NEHE1EM-107X	E CAP.	100pF 25V	M
C0441	NCF21EZ-104X	C CAP.	0.1μF 25V	Z *
C0442	NDC21HJ-100X	C CAP.	10pF 50V	J *
C0443	NEH71CM-476X	E CAP.	47μF 16V	M
C0444	NCF21EZ-104X	C CAP.	0.1μF 25V	Z *
C0445	NEH71EM-107X	E CAP.	100pF 25V	M
C0446	NCF21EZ-104X	C CAP.	0.1μF 25V	Z *
C0447	NDC21HJ-470X	C CAP.	47pF 50V	J *
C0448	NEH71CM-476X	E CAP.	47μF 16V	M
C0449	NCF21EZ-104X	C CAP.	0.1μF 25V	Z *
C0450	NEH71CM-476X	E CAP.	47μF 16V	M
C0451	NCF21EZ-104X	C CAP.	0.1μF 25V	Z *
C0452	NDC21HJ-100X	C CAP.	10pF 50V	J *
C0453	NEH71CM-476X	E CAP.	47μF 16V	M
C0454	NCF21EZ-104X	C CAP.	0.1μF 25V	Z *
C0455	NEH71EM-107X	E CAP.	100pF 25V	M
C0456				

△ Symbol No. Part No. Part Name Description Local

CAPACITOR

C0053	WOC21HJ-6R0X	C CAP.	6.0pF	50V	J	*
C0054	WCB21H-103X	C CAP.	0.01μF	50V	K	*
C0055	QETW1CM-107Z	E CAP.	100pF	16V	M	*
C0056	QETW1HM-474Z	E CAP.	0.47μF	50V	M	*
C0057	NDC21HJ-102X	C CAP.	1000pF	50V	J	*
C0058	WCB21H-472X	C CAP.	4700pF	50V	K	*
C0060	NDC21HJ-120X	C CAP.	12pF	50V	J	*
C0061	NDC21HJ-7R0X	C CAP.	7.0pF	50V	J	*
C0062	QETW1HM-474Z	E CAP.	0.47μF	50V	M	*
C0063	WCB21H-103X	C CAP.	0.01μF	50V	K	*
C0064	WCB21HK-472X	C CAP.	4700pF	50V	K	*
C0065	QETW1HM-105Z	E CAP.	1μF	50V	M	*
C0067	NDC21HJ-120X	C CAP.	12pF	50V	J	*
C0069-70	WCB21H-103X	C CAP.	0.01μF	50V	K	*
C0071	QETW1HM-336Z	E CAP.	33μF	50V	*	*
C0080-81	WCB21HK-472X	C CAP.	4700pF	50V	K	*
C0101	QETW1CM-476Z	E CAP.	47μF	16V	M	*
C0102	NDC21HJ-221X	C CAP.	220pF	50V	J	*
C0103-04	WCB21HJ-121X	C CAP.	120pF	50V	J	*
C0105	WCB21H-103X	C CAP.	0.01μF	50V	K	*
C0140	QETW1HM-335Z	E CAP.	3.3μF	50V	M	*
C0141	NDC21HJ-561X	C CAP.	560pF	50V	J	*
C0142	QETW1HM-105Z	E CAP.	1μF	50V	M	*
C0143	QFLC1HJ-683Z	M CAP.	0.068μF	50V	J	*
C0144	QETW1HM-335Z	E CAP.	3.3μF	50V	M	*
C0145	WCB21H-222X	C CAP.	2200pF	50V	K	*
C0601	QFLC1HJ-183Z	M CAP.	0.018μF	50V	J	*
C0602	QETW1CM-476Z	E CAP.	47μF	16V	M	*
C0603	QETW1HM-106Z	E CAP.	10μF	50V	M	*
C0604	QETW1HM-105Z	E CAP.	1μF	50V	M	*
C0605	QETW1CM-477Z	E CAP.	4700pF	16V	M	*
C0606	WCB21H-103X	C CAP.	0.01μF	50V	K	*

TRANSFORMER

T0020	Q00626-001	I.F. TRANSF.	*
T0050	CELT001-307	C.WAVE TRANSF.	*
T0051	CELT001-306	C.WAVE TRANSF.	*

COIL

L0020	QQLZ014-R47	PEAKING COIL	0.47μH	*
L0021	NQL011K-1R5X	COIL	1.5μH	*
L0040	NQL024J-120X	COIL	12μH	
L0042	NQL024J-330X	COIL	33μH	
L0050-53	NQL011K-8R2X	COIL	8.2μH	*
L0054	NQL024J-330X	COIL	33μH	
L0070	NQL011K-SR6X	COIL	5.6μH	*
L0101	NQL011K-SR8X	COIL	6.8μH	*
L0102-03	NQL011K-100X	COIL	10μH	*
L0104	NQL011K-BR2X	COIL	8.2μH	*

DIODE

D0020-21	DAN235K-X	CHIP DIODE	
D0050-51	DAN235K-X	CHIP DIODE	

TRANSISTOR

Q0012	2SC5083/-P/-T	SI. TRANSISTOR	*
Q0080	2SC2712/YG/-X	SI. TRANSISTOR	*
Q101	2SC2712/YG/-X	SI. TRANSISTOR	*
Q102	2SA1162/YG/-Y	SI. TRANSISTOR	*
Q103	DTC144EKA-X	DIGI. TRANSISTOR	*
Q104	2SC2712/YG/-Y	SI. TRANSISTOR	*

△ Symbol No. Part No. Part Name Description Local

TRANSISTOR

Q0106	2SC2712/YG/-X	SI. TRANSISTOR	*
Q0107	2SA1162/YG/-X	SI. TRANSISTOR	*
Q0108	DTC144EKA-X	DIGI. TRANSISTOR	*
Q0109-11	2SC2712/YG/-X	SI. TRANSISTOR	*
Q0120-26	DTC144EKA-X	DIGI. TRANSISTOR	*
Q0601-02	2SC2712/YG/-X	SI. TRANSISTOR	*

IC
OTHERS

IC0010	TA8865BN	I.C. (MONO-ANA)	*
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AV TERMINAL PW BOARD ASS'Y (SMD0J001A-U2)

△ Symbol No. Part No. Part Name Description Local

RESISTOR

R0104	QRE14L-750Y	C R	750 1/4W J	*
R0106	QRE14L-750Y	C R	750 1/4W J	*
R0108	QRE14L-750Y	C R	750 1/4W J	*
R0112	QRE14L-750Y	C R	750 1/4W J	*
R0204	QRE14L-750Y	C R	750 1/4W J	*
R0304	QRE14L-750Y	C R	750 1/4W J	*

CAPACITOR

C0102-04	QKC1CM-106Z	E CAP.	10μF 16V	M	*
C0105-08	QCB31HK-472Z	C CAP.	4700pF 50V	K	*
C0109	QETW1HM-108Z	E CAP.	1000pF 10V	M	*
C0202	QCB31HK-103Z	C CAP.	0.01μF 50V	K	*
C0203-06	QCB31HK-472Z	C CAP.	4700pF 50V	K	*
C0209	QETW1HM-108Z	E CAP.	1000pF 10V	M	*
C0302	QCB31HM-103Z	C CAP.	0.01μF 50V	K	*
C0305-06	QCB31HK-472Z	C CAP.	4700pF 50V	K	*

COIL

L0101-04	QQL21K-SR6Y	COIL	5.6μH	*
L0105	QQR0716-0012	LEAD CORE	5.6μH	*
L0201-04	QQL21K-SR6Y	COIL	5.6μH	*
L0205	QQR0716-0012	LEAD CORE	5.6μH	*
L0301-02	QQL21K-SR6Y	COIL	5.6μH	*
L0303	QQR0716-0012	LEAD CORE	5.6μH	*

DIODE

D0101-04	MTZ1J3B-T2	ZENER DIODE	*
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OTHERS

CN0008	CHM401N-35R-J	HQF CONNECTOR	*
J0001-03	CE40529-006	SCART CONNECTOR	*

SUB MICON & AUTO PANORAMA PW BOARD ASS'Y (SMD0W001A-U2)

△ Symbol No. Part No. Part Name Description Local

RESISTOR

R0001	NRA02J-101X	MG R	1000 1/10W	J	*
R0002	NRA02J-104X	MG R	100k 1/10W	J	*
R0003	NRA02J-393X	MG R	39k 1/10W	J	*
R0004	NRA02J-332X	MG R	3.3k 1/10W	J	*
R0005-07	NRA02J-102X	MG R	1k 1/10W	J	*
R0008	NRA02J-472X	MG R	4.7k 1/10W	J	*
R0009	NRA02J-331X	MG R	3300 1/10W	J	*
R0010	NRA02J-102X	MG R	1k 1/10W	J	*

CAPACITOR

R0011	NRA02J-332X	MG R	3.3k 1/10W	J	*
R0012	NRA02J-272X	MG R	2.7k 1/10W	J	*
R0020-26	NRA02J-102X	MG R	1k 1/10W	J	*
R0045	NRA02J-472X	MG R	4.7k 1/10W	J	*
R0051	NRA02J-472X	MG R	4.7k 1/10W	J	*
R0054	NRA02J-103X	MG R	10k 1/10W	J	*
R0060	NRA02J-823X	MG R	82k 1/10W	J	*
R0751	NRA02J-102X	MG R	1k 1/10W	J	*

COIL

L0752-57	NRA02J-103X	MG R	10k 1/10W	J	*
R0758	NRA02J-472X	MG R	4.7k 1/10W	J	*
R0759-60	NRA02J-103X	MG R	10k 1/10W	J	*
R0761-66	NRA02J-822X	MG R	8.2k 1/10W	J	*

CAPACITOR

C0001	NEW51AM-336X	CHIP AL BP E CAP	33μF 10V	M	*
C0002	NDC21HK-221X	C CAP.	220pF 50V	J	*
C0003	NDC21HK-220X	C CAP.	22pF 50V	J	*
C0004-05	NCB21HK-104X	CHIP CAP.	0.1μF 50V	K	*
C0006	NEH71CH-476X	E CAP.	47μF 16V	M	*
C0009	NEH71CH-106X	E CAP.	10μF 16V	M	*
C0010-11	NCB21HK-104X	CHIP CAP.	0.1μF 50V	K	*
C0751	NEH71CH-476X	E CAP.	47μF 16V	M	*

DIODE

D0005	MA3051M/-X	ZENER DIODE	*
D0751	MA111-X	SI. DIODE	*
D0752-53	MA3062M/-X	ZENER DIODE	*

TRANSISTOR

100Hz PW BOARD ASS'Y (SMD0Z002A-U2)

△ Symbol No.	Part No.	Part Name	Description	Local
RESISTOR				

R0001-02	NR5A02J-101X	MG R	1000 1/10W	J *
R0004	NR5A02J-222X	MG R	2.2kΩ 1/10W	J *
R0005	NR5A02J-472X	MG R	4.7kΩ 1/10W	J *
R0101	NR5A02J-101X	MG R	1000 1/10W	J *
R0102	NR5A02J-102X	MG R	1kΩ 1/10W	J *
R0103	NR5A02J-331X	MG R	330Ω 1/10W	J *
R0104	NR5A02J-222X	MG R	2.2kΩ 1/10W	J *
R0105	NR5A02J-473X	MG R	47kΩ 1/10W	J *
R0106	NR5A02J-773X	MG R	27kΩ 1/10W	J *
R0107	NR5A02J-331X	MG R	330Ω 1/10W	J *
R0108	NR5A02J-181X	MG R	180Ω 1/10W	J *
R0109-10	NR5A02J-101X	MG R	1000 1/10W	J *
R0111	NR5A02J-222X	MG R	2.2kΩ 1/10W	J *
R0112	NR5A02J-101X	MG R	1000 1/10W	J *
R0113	NR5A02J-773X	MG R	470Ω 1/10W	J *
R0114	NR5A02J-221X	MG R	220Ω 1/10W	J *
R0121	NR5A02J-101X	MG R	1000 1/10W	J *
R0122	NR5A02J-102X	MG R	1kΩ 1/10W	J *
R0123	NR5A02J-331X	MG R	330Ω 1/10W	J *
R0124	NR5A02J-222X	MG R	2.2kΩ 1/10W	J *
R0125	NR5A02J-473X	MG R	47kΩ 1/10W	J *
R0126	NR5A02J-773X	MG R	27kΩ 1/10W	J *
R0127	NR5A02J-171X	MG R	270Ω 1/10W	J *
R0128	NR5A02J-181X	MG R	180Ω 1/10W	J *
R0129	NR5A02J-101X	MG R	1000 1/10W	J *
R0130	NR5A02J-330X	MG R	33Ω 1/10W	J *
R0131	NR5A02J-222X	MG R	2.2kΩ 1/10W	J *
R0132	NR5A02J-101X	MG R	1000 1/10W	J *
R0133	NR5A02J-471X	MG R	470Ω 1/10W	J *
R0134	NR5A02J-221X	MG R	220Ω 1/10W	J *
R0141	NR5A02J-101X	MG R	1000 1/10W	J *
R0142	NR5A02J-102X	MG R	1kΩ 1/10W	J *
R0143	NR5A02J-331X	MG R	330Ω 1/10W	J *
R0144	NR5A02J-222X	MG R	2.2kΩ 1/10W	J *
R0145	NR5A02J-473X	MG R	47kΩ 1/10W	J *
R0146	NR5A02J-773X	MG R	27kΩ 1/10W	J *
R0147	NR5A02J-171X	MG R	270Ω 1/10W	J *
R0148	NR5A02J-181X	MG R	180Ω 1/10W	J *
R0149	NR5A02J-101X	MG R	1000 1/10W	J *
R0150	NR5A02J-150X	MG R	15Ω 1/10W	J *
R0151	NR5A02J-221X	MG R	2.2kΩ 1/10W	J *
R0152	NR5A02J-101X	MG R	1000 1/10W	J *
R0153	NR5A02J-471X	MG R	470Ω 1/10W	J *
R0154	NR5A02J-221X	MG R	220Ω 1/10W	J *
R0155	NR5A02J-100X	MG R	10Ω 1/10W	J *
R0156	NR5A02J-112X	MG R	1.2kΩ 1/10W	J *
R0157	NR5A02J-550X	MG R	56Ω 1/10W	J *
R0158	NR5A02J-680X	MG R	68Ω 1/10W	J *
R0159	NR5A02J-101X	MG R	1000 1/10W	J *
R0160	NR5A02J-333X	MG R	33Ω 1/10W	J *
R0161	NR5A02J-223X	MG R	22Ω 1/10W	J *
R0162	NR5A02J-112X	MG R	1.2kΩ 1/10W	J *
R0163	NR5A02J-181X	MG R	180Ω 1/10W	J *
R0164	NR5A02J-680X	MG R	68Ω 1/10W	J *
R0165	NR5A02J-080X	MG R	0.08Ω 1/10W	J *
R0171	NR5A02J-101X	MG R	1000 1/10W	J *
R0172	NR5A02J-102X	MG R	1kΩ 1/10W	J *
R0173	NR5A02J-182X	MG R	1.8kΩ 1/10W	J *
R0174	NR5A02J-560X	MG R	56Ω 1/10W	J *
R0175	NR5A02J-105X	MG R	1Ω 1/10W	J *
R0176	NR5A02J-681X	MG R	68Ω 1/10W	J *
R0177	NR5A02J-104X	MG R	100Ω 1/10W	J *
R0178	NR5A02J-101X	MG R	100Ω 1/10W	J *
R0179	NR5A02J-471X	MG R	470Ω 1/10W	J *
R0180	NR5A02J-102X	MG R	1kΩ 1/10W	J *
R0181-82	NR5A02J-393X	MG R	3.9kΩ 1/10W	F *

△ Symbol No.	Part No.	Part Name	Description	Local
RESISTOR				

20183-84	NR5A02J-122X	MG R	1.2kΩ 1/10W	J *
20185	NR5A02J-392X	MG R	3.9kΩ 1/10W	F *
20186	NR5A02J-332X	MG R	3.3kΩ 1/10W	F *
20187	NR5A02J-101X	MG R	100Ω 1/10W	J *
20188	NR5A02J-563X	MG R	56kΩ 1/10W	J *
20189	NR5A02J-470X	MG R	47Ω 1/10W	J *
20190	NR5A02J-102X	MG R	1kΩ 1/10W	J *
20191	NR5A02J-223X	MG R	22kΩ 1/10W	J *
20192	NR5A02J-220X	MG R	22Ω 1/10W	J *
20193	NR5A02J-104X	MG R	100Ω 1/10W	J *
20201-16	NR5A02J-101X	MG R	100Ω 1/10W	J *
20221-36	NR5A02J-101X	MG R	100Ω 1/10W	J *
20303-18	NR5A02J-101X	MG R	100Ω 1/10W	J *
20401	NR5A02J-103X	MG R	10Ω 1/10W	J *
20403	NR5A02J-223X	MG R	22kΩ 1/10W	J *
20404	NR5A02J-222X	MG R	2.2kΩ 1/10W	J *
20406	NR5A02J-102X	MG R	1kΩ 1/10W	J *
20408	NR5A02J-561X	MG R	56Ω 1/10W	J *
20409	NR5A02J-102X	MG R	1kΩ 1/10W	J *
20411	NR5A02J-080X	MG R	0.08Ω 1/10W	J *
20412	NR5A02J-561X	MG R	56Ω 1/10W	J *
20413	NR5A02J-101X	MG R	100Ω 1/10W	J *
20415	NR5A02J-151X	MG R	150Ω 1/10W	J *
20417	NR5A02J-102X	MG R	1kΩ 1/10W	J *
20418	NR5A02J-220X	MG R	22Ω 1/10W	J *
20419	NR5A02J-101X	MG R	100Ω 1/10W	J *
20420	NR5A02J-471X	MG R	47Ω 1/10W	J *
20425	NR5A02J-080X	MG R	0.08Ω 1/10W	J *
20426	NR5A02J-122X	MG R	1.2kΩ 1/10W	J *
20428	NR5A02J-472X	MG R	47Ω 1/10W	F *
20429	NR5A02J-333X	MG R	33Ω 1/10W	F *
20431	NR5A02J-080X	MG R	0.08Ω 1/10W	J *
20432	NR5A02J-561X	MG R	56Ω 1/10W	J *
20433	NR5A02J-101X	MG R	100Ω 1/10W	J *
20435	NR5A02J-151X	MG R	150Ω 1/10W	J *
20437	NR5A02J-102X	MG R	1kΩ 1/10W	J *
20438	NR5A02J-220X	MG R	22Ω 1/10W	J *
20439	NR5A02J-101X	MG R	100Ω 1/10W	J *
20440	NR5A02J-471X	MG R	47Ω 1/10W	J *
20441	NR5A02J-122X	MG R	1.2kΩ 1/10W	J *
20442	NR5A02J-472X	MG R	47Ω 1/10W	F *
20443	NR5A02J-333X	MG R	33Ω 1/10W	F *
20451	NR5A02J-080X	MG R	0.08Ω 1/10W	J *
20452	NR5A02J-561X	MG R	56Ω 1/10W	J *
20453	NR5A02J-101X	MG R	100Ω 1/10W	J *
20455	NR5A02J-151X	MG R	150Ω 1/10W	J *
20457	NR5A02J-102X	MG R	1kΩ 1/10W	J *
20458	NR5A02J-220X	MG R	22Ω 1/10W	J *
20459	NR5A02J-101X	MG R	100Ω 1/10W	J *
20460	NR5A02J-471X	MG R	47Ω 1/10W	J *
20461	NR5A02J-122X	MG R	1.2kΩ 1/10W	J *
20462	NR5A02J-472X	MG R	47Ω 1/10W	F *
20463	NR5A02J-333X	MG R	33Ω 1/10W	F *
20471	NR5A02J-080X	MG R	0.08Ω 1/10W	J *
20472	NR5A02J-391X	MG R	39Ω 1/10W	J *
20473	NR5A02J-101X	MG R	100Ω 1/10W	J *
20474	NR5A02J-223X	MG R	22Ω 1/10W	J *
20475	NR5A02J-473X	MG R	47Ω 1/10W	J *
20476	NR5A02J-330X	MG R	33Ω 1/10W	J *
20477	NR5A02J-102X	MG R	1.2kΩ 1/10W	J *
20478	NR5A02J-220X	MG R	22Ω 1/10W	J *
20479	NR5A02J-101X	MG R	100Ω 1/10W	J *
20480	NR5A02J-221X	MG R	22Ω 1/10W	J *
20486	NR5A02J-683X	MG R	68kΩ 1/10W	J *
20487	NR5A02J-103X	MG R	10kΩ 1/10W	J *
20488	NR5A02J-223X	MG R	22kΩ 1/10W	J *
20489	NR5A02J-562X	MG R	5.6kΩ 1/10W	J *

△ Symbol No.	Part No.	Part Name	Description	Local
RESISTOR				

RO491-92	NR5A02J-102X	MG R	1kΩ 1/10W	J *
RO501	NR5A02J-473X	MG R	4.7kΩ 1/10W	J *
RO504	NR5A02J-272X	MG R	2.7kΩ 1/10W	J *
RO505	NR5A02J-472X	MG R	4.7kΩ 1/10W	J *
RO506	NR5A02J-080X	MG R	0.08Ω 1/10W	J *
RO507	NR5A02J-103X	MG R	10kΩ 1/10W	J *
RO512	NR5A02J-682X	MG R	6.8kΩ 1/10W	J *
RO514-15	NR5A02J-562X	MG R	5.6kΩ 1/10W	J *
RO516	NR5A02J-560X	MG R	56Ω 1/10W	J *
RO517	NR5A02J-561X	MG R	56Ω 1/10W	J *
RO518	NR5A02J-561X	MG R	56Ω 1/10W	J *
RO519	NR5A02J-561X	MG R	56Ω 1/10W	J *
RO520	NR5A02J-273X	MG R	2.7kΩ 1/10W	J *
RO521	NR5A02J-123X	MG R	12kΩ 1/10W	J *
RO522	NR5A02J-472X	MG R	4.7kΩ 1/10W	J *
RO523	NR5A02J-080X	MG R	0.08Ω 1/10W	J *
RO524	NR5A02J-154X	MG R	150Ω 1/10W	J *
RO525	NR5A02J-154X	MG R	150Ω 1/10W	J *
RO526	NR5A02J-224X	MG R	22Ω 1/10W	J *
RO527	NR5A02J-683X	MG R	68kΩ 1/10W	J *
RO528	NR5A02J-224X	MG R	22Ω 1/10W	J *
RO529	NR5A02J-153X	MG R	15Ω 1/10W	J *
RO530	NR5A02J-476X	MG R	47Ω 1/10W	F *
RO531	NR5A02J-476X	MG R	47Ω 1/10W	F *
RO532	NR5A02J-476X	MG R	47Ω 1/10W	F *
RO533	NR5A02J-476X	MG R	47Ω 1/10W	F *
RO534	NR5A02J-476X	MG R	47Ω 1/10W	F *
RO535	NR5A02J-476X	MG R	47Ω 1/10W	F *
RO536	NR5A02J-476X	MG R	47Ω 1/10W	F *
RO537	NR5A02J-476X	MG R	47Ω 1/10W	F *
RO538	NR5A02J-476X	MG R	47Ω 1/10W	F *
RO539	NR5A02J-476X	MG R	47Ω 1/10W	F *
RO540	NR5A02J-476X	MG R	47Ω 1/10W	F *
RO541	NR5A02J-476X	MG R	47Ω 1/10W	F *
RO542</td				

Symbol No.	Part No.	Part Name	Description	Local
CAPACITOR				
C0708	WCB21HK-103X	C CAP.	0.01μF 50V K	*
C0709	WCF21E2-104X	C CAP.	0.1μF 25V Z	*
C0710	WEH71CH-106X	E CAP.	10μF 16V M	
C0711	WCF21E2-104X	C CAP.	0.1μF 25V Z	*
C0712	WEH71CH-106X	E CAP.	10μF 16V M	
C0713	WCB21HK-473X	C CAP.	0.047μF 50V K	*
COIL				
L0001-05	WQL02B1-4R7X	COIL	4.7μH	*
L0101	WQL02B1-30X	COIL	3.3μH	*
L0121	WQL01N-3R3X	COIL	3.3μH	*
L0141	WQL01N-3R3X	COIL	3.3μH	*
L0161	WQL02B1-100X	COIL	10μH	*
L0162	WQL02B1-3R3X	COIL	3.3μH	*
L0163-64	WQL02B1-100X	COIL	10μH	*
L0201-02	WQL02B1-100X	COIL	10μH	*
L0301-02	WQL02B1-4R7X	COIL	4.7μH	*
DIODE				
D0001	MA152W-X	SI.DIODE		*
D0101-02	MA3068/M-X	ZENER DIODE		*
D0103	MA3043-X	ZENER DIODE		*
D0104-05	MA111-X	SI.DIODE		*
D0106	MA3068/M-X	ZENER DIODE		*
D0107	MA111-X	SI.DIODE		*
D0401	MA111-X	SI.DIODE		*
D0403-10	MA3068/M-X	ZENER DIODE		*
D0411-13	MA111-X	SI.DIODE		*
D0414	MA3068/M-X	ZENER DIODE		*
D0701	MA111-X	SI.DIODE		*
TRANSISTOR				
Q0101	2SA1162/YG/-X	SI.TRANSISTOR		*
Q0102	2SC2712/YG/-X	SI.TRANSISTOR		*
Q0103	2SA1162/YG/-X	SI.TRANSISTOR		*
Q0104	2SC2712/YG/-X	SI.TRANSISTOR		*
Q0105	2SA1162/YG/-X	SI.TRANSISTOR		*
Q0106-07	2SC2712/YG/-X	SI.TRANSISTOR		*
Q0108	2SA1162/YG/-X	SI.TRANSISTOR		*
Q0109-10	2SC2712/YG/-X	SI.TRANSISTOR		*
Q0111	2SA1162/YG/-X	SI.TRANSISTOR		*
Q0121	2SA1162/YG/-X	SI.TRANSISTOR		*
Q0122	2SC2712/YG/-X	SI.TRANSISTOR		*
Q0123	2SA1162/YG/-X	SI.TRANSISTOR		*
Q0124	2SC2712/YG/-X	SI.TRANSISTOR		*
Q0141	2SA1162/YG/-X	SI.TRANSISTOR		*
Q0142	2SC2712/YG/-X	SI.TRANSISTOR		*
Q0143	2SA1162/YG/-X	SI.TRANSISTOR		*
Q0144	2SC2712/YG/-X	SI.TRANSISTOR		*
Q0151-52	2SC2712/YG/-X	SI.TRANSISTOR		*
Q0153	2SA1162/YG/-X	SI.TRANSISTOR		*
Q0154	2SC2712/YG/-X	SI.TRANSISTOR		*
Q0155	2SA1162/YG/-X	SI.TRANSISTOR		*
Q0402	2SC2712/YG/-X	SI.TRANSISTOR		*
Q0403-05	2SA1162/YG/-X	SI.TRANSISTOR		*
Q0411	2SA1162/YG/-X	SI.TRANSISTOR		*
Q0412-15	2SC2712/YG/-X	SI.TRANSISTOR		*
Q0431	2SA1162/YG/-X	SI.TRANSISTOR		*
Q0432-35	2SC2712/YG/-X	SI.TRANSISTOR		*
Q0451	2SA1162/YG/-X	SI.TRANSISTOR		*
Q0452-55	2SC2712/YG/-X	SI.TRANSISTOR		*
Q0471	2SA1162/YG/-X	SI.TRANSISTOR		*
Q0472-74	2SC2712/YG/-X	SI.TRANSISTOR		*

Symbol No.	Part No.	Part Name	Description	Local
TRANSISTOR				
Q0501	2SC2712/YG/-X	SI.TRANSISTOR		*
Q0601	2SC2712/YG/-X	SI.TRANSISTOR		*
Q0702	2SC2712/YG/-X	SI.TRANSISTOR		*
IC				
IC0101	SDA9206	I.C.		*
IC0102	TC4665-X	I.C.(DIGI-MOS)		*
IC0201	SDA400	I.C.		*
IC0301	JCC5043	I.C.		*
IC0401	DP3210B/D-2W	I.C.		*
IC0601	SH74LV044NS-X	I.C.		*
IC0602	TC74AC00F-X	I.C.(DIGI-MOS)		*
IC0603	MM1382/Q-X	I.C.(MONO-ANA)		*
IC0701-02	NJM4556AM-XE	I.C.		*
OTHERS				
LC0001-04	CE42482-103Y	EMI FILTER		*
LC0101-03	CE42482-470Y	EMI FILTER		*
LC0104	CE42126-101Y	EMI FILTER		*
LC0201	CE42482-103Y	EMI FILTER		*
LC0401-11	CE42126-220Y	EMI FILTER		*
LC0601	CE42126-101Y	EMI FILTER		*
LC0602	CE42482-470Y	EMI FILTER		*
LC0603	CE42126-101Y	EMI FILTER		*
X0101	QAX0545-001Z	X TAL		*
X0201	QAX0355-001Z	CRYSTAL		*
X0401	QAX0548-001Z	X TAL		*
Y0001-14	NRSA02J-OROX	MG R	0.00 1/10W J	*
Y0017-28	NRSA02J-OROX	MG R	0.00 1/10W J	*

AV-28WZ4EP / AV-28WZ4EPS

PRINTED WIRING BOARD PARTS LIST

MAIN PW BOARD ASS'Y (SMD-1003A-U2)

Symbol No.	Part No.	Part Name	Description	Local
RESISTOR				
R1002	NRSA02J-103X	MG R	10kΩ 1/10W J	*
R1003-06	NRSA02J-102X	MG R	1kΩ 1/10W J	*
R1101-03	NRSA02J-102X	MG R	1kΩ 1/10W J	*
R1104	NRSA02J-681X	MG R	680Ω 1/10W J	*
R1105	NRSA02J-392X	MG R	3.9kΩ 1/10W J	*
R1107	NRSA02J-391X	MG R	390Ω 1/10W J	*
R1108	NRSA02J-102X	MG R	1kΩ 1/10W J	*
R1109	NRSA02J-103X	MG R	10kΩ 1/10W J	*
R1110	NRSA02J-472X	MG R	4.7kΩ 1/10W J	*
R1111	NRSA02J-821X	MG R	820Ω 1/10W J	*
R1112	NRSA02J-101X	MG R	100Ω 1/10W J	*
R1113	NRSA02J-102X	MG R	1kΩ 1/10W J	*
R1121-22	NRSA02J-OROX	MG R	0.00 1/10W J	*
R1123	NRSA02J-152X	MG R	1.5kΩ 1/10W J	*
R1124	NRSA02J-821X	MG R	820Ω 1/10W J	*
R1125-27	NRSA02J-103X	MG R	10kΩ 1/10W J	*
R1128	NRSA02J-153X	MG R	15kΩ 1/10W J	*
R1131-33	NRSA02J-102X	MG R	1kΩ 1/10W J	*
R1134	NRSA02J-681X	MG R	680Ω 1/10W J	*
R1135	NRSA02J-561X	MG R	560Ω 1/10W J	*
R1136	NRSA02J-681X	MG R	680Ω 1/10W J	*
R1137	NRSA02J-102X	MG R	1kΩ 1/10W J	*
R1138	NRSA02J-391X	MG R	390Ω 1/10W J	*
R1140	NRSA02J-103X	MG R	10kΩ 1/10W J	*
R1141	NRSA02J-472X	MG R	4.7kΩ 1/10W J	*
R1142	NRSA02J-821X	MG R	820Ω 1/10W J	*
R1151	NRSA02J-222X	MG R	2.2kΩ 1/10W J	*
R1152-53	NRSA02J-102X	MG R	1kΩ 1/10W J	*
R1154	NRSA02J-681X	MG R	680Ω 1/10W J	*
R1155	NRSA02J-561X	MG R	560Ω 1/10W J	*
R1156	NRSA02J-681X	MG R	680Ω 1/10W J	*
R1157	NRSA02J-102X	MG R	1kΩ 1/10W J	*
R1158	NRSA02J-391X	MG R	390Ω 1/10W J	*
R1160	NRSA02J-103X	MG R	10kΩ 1/10W J	*
R1161	NRSA02J-472X	MG R	4.7kΩ 1/10W J	*
R1162	NRSA02J-821X	MG R	820Ω 1/10W J	*
R1171	NRSA02J-103X	MG R	10kΩ 1/10W J	*
R1172	NRSA02J-562X	MG R	5.6kΩ 1/10W J	*
R1173	NRSA02J-221X	MG R	220Ω 1/10W J	*
R1174	NRSA02J-272X	MG R	2.7kΩ 1/10W J	*
R1175	NRSA02J-102X	MG R	1kΩ 1/10W J	*
R1176	NRSA02J-392X	MG R	3.9kΩ 1/10W J	*
R1177	NRSA02J-472X	MG R	4.7kΩ 1/10W J	*
R1178	NRSA02J-OROX	MG R	0.00 1/10W J	*
R1179	NRSA02J-272X	MG R	2.7kΩ 1/10W J	*
R1201-02	NRSA02J-103X	MG R	10kΩ 1/10W J	*
R1203	ORK126-151X	C R	150Ω 1/2W J	*
R1205	NRSA02J-101X	MG R	100Ω 1/10W J	*
R1206	ORK01G1-101	OM R	100Ω 1W J	*
R1207	NRSA02J-223X	MG R	22kΩ 1/10W J	*
R1208	NRSA02J-473X	MG R	47kΩ 1/10W J	*
R1209	NRSA02J-683X	MG R	68kΩ 1/10W J	*
R1210	NRSA02J-153X	MG R	15kΩ 1/10W J	*
R1211	NRSA02J-103X	MG R	10kΩ 1/10W J	*
R1212	NRSA02J-473X	MG R	47kΩ 1/10W J	*
R1213	NRSA02J-273X	MG R	27kΩ 1/10W J	*
R1214	NRSA02J-103X	MG R	10kΩ 1/10W J	*
R1215	NRSA02J-222X	MG R	2.2kΩ 1/10W J	*
R1216	NRSA02J-333X	MG R	33kΩ 1/10W J	*
R1217	NRSA02J-222X	MG R	2.2kΩ 1/10W J	*
R1218	NRSA02J-333X	MG R	33kΩ 1/10W J	*
R1219	NRSA02J-823X	MG R	820Ω 1/10W J	*
R1220	NRSA02J-0RDX	MG R	390Ω 1/10W J	*
R1221	NRSA02J-391X	MG R	390Ω 1/10W J	*
R1222	NRSA02J-223X	MG R	22kΩ 1/10W J	*
R1223	NRSA02J-101X	MG R	100Ω 1/10W J	*
R1224	NRSA02J-391X	MG R	390Ω 1/10W J	*
R1225-26	NRSA02J-223X	MG R	22kΩ 1/10W J	*
R1226	NRSA02J-104X	MG R	10kΩ 1/10W J	*
R1227	NRSA02J-104X	MG R	10kΩ 1/10W J	*
R1228	NRSA02J-222X	MG R	2.2kΩ 1/10W J	*
R1229	NRSA02J-333X	MG R	33kΩ 1/10W J	*
R1230	NRSA02J-471X	MG R	47kΩ 1/10W J	*
R1231	NRSA02J-471X	MG R	47kΩ 1/10W J	*
R1232	NRSA02J-221X	MG R	220Ω 1/10W J	*
R1233	NRSA02J-471X	MG R	47kΩ 1/10W J	*
R1234	NRSA02J-222X	MG R	220Ω 1/10W J	*
R1235	NRSA02J-221X	MG R	220Ω 1/10W J	*
R1236	NRSA02J-271X	MG R	270Ω 1/10W J	*
R1237	NRSA02J-221X	MG R	220Ω 1/10W J	*
R1238	NRSA02J-471X	MG R	47kΩ 1/10W J	*
R1239	NRSA02J-471X	MG R	47kΩ 1/10W J	*
R1240	NRSA02J-471X	MG R	47kΩ 1/10W J	*
R1241	NRSA02J-471X	MG R	47kΩ 1/10W J	*
R1242	NRSA02J-223X	MG R	22kΩ 1/10W J	*
R1243	NRSA02J-473X	MG R	47kΩ 1/10W J	*
R1244	NRSA02J-683X	MG R	68kΩ 1/10W J	*
R1245	NRSA02J-153X	MG R	15kΩ 1/10W J	*
R1246	NRSA02J-223X	MG R	22kΩ 1/10W J	*
R1247	NRSA02J-473X	MG R	47kΩ 1/10W J	*
R1248	NRSA02J-733X	MG R	27kΩ 1/10W J	*
R1249	NRSA02J-103X	MG R	10kΩ 1/10W J	*
R1250	NRSA02J-222X	MG R	2.2kΩ 1/10W J	*
R1251	NRSA02J-333X	MG R	33kΩ 1/10W J	*
R1252	NRSA02J-222X	MG R	2.2kΩ 1/10W J	*
R1253	NRSA02J-333X	MG R	33kΩ 1/10W J	*
R1254	NRSA02J-823X	MG R	820Ω 1/10W J	*
R1255	NRSA02J-OROX	MG R	0.00 1/10W J	*
R1256	NRSA02J-391X	MG R	390Ω 1/10W J	*
R1257	NRSA02J-333X	MG R	33kΩ 1/10W J	*
R1258	NRSA02J-OROX	MG R	0.00 1/10W J	*
R1259	NRSA02J-391X	MG R	390Ω 1/10W J	*
R1260-61	NRSA02J-223X	MG R	22kΩ 1/10W J	*
R1261	NRSA02J-104X	MG R	10kΩ 1/10W J	*
R1262	NRSA02J-222X	MG R	2.2kΩ 1/10W J	*
R1263	NRSA02J-391X	MG R	390Ω 1/10W J	*
R1264</				

△ Symbol No. Part No. Part Name Description Local

RESISTOR

R1309	NRSA02J-221X	MG R	220Ω 1/10W J *
R1310	NRSA02J-471X	MG R	470Ω 1/10W J *
R1311	NRSA02J-221X	MG R	220Ω 1/10W J *
R1312	NRSA02J-271X	MG R	270Ω 1/10W J *
R1313	NRSA02J-221X	MG R	220Ω 1/10W J *
R1314-15	NRSA02J-471X	MG R	470Ω 1/10W J *
R1316	NRSA02J-152X	MG R	1.5kΩ 1/10W J *
R1317-18	NRSA02J-101X	MG R	100Ω 1/10W J *

R1319	NRSA02J-152X	MG R	1.5kΩ 1/10W J *
R1320	NRSA02J-221X	MG R	220Ω 1/10W J *
R1321	NRSA02J-102X	MG R	1kΩ 1/10W J *
R1323-24	NRSA02J-562X	MG R	5.6kΩ 1/10W J *
R1326-29	NRSA02J-152X	MG R	1.5kΩ 1/10W J *
R1330	NRSA02J-103X	MG R	10kΩ 1/10W J *
R1331	NRSA02J-221X	MG R	220Ω 1/10W J *
R1332-33	NRSA02J-471X	MG R	470Ω 1/10W J *

R1334-35	NRSA02J-152X	MG R	1.5kΩ 1/10W J *
R1336	NRSA02J-101X	MG R	100Ω 1/10W J *
R1337	NRSA02J-103X	MG R	10kΩ 1/10W J *
R1338-40	NRSA02J-101X	MG R	100Ω 1/10W J *
R1341	NRSA02J-183X	MG R	18kΩ 1/10W J *
R1342	NRSA02J-823X	MG R	82kΩ 1/10W J *
R1343-44	NRSA02J-101X	MG R	100Ω 1/10W J *
R1345-46	NRSA02J-103X	MG R	10kΩ 1/10W J *

R1347	NRSA02J-562X	MG R	5.6kΩ 1/10W J *
R1348	NRSA02J-471X	MG R	470Ω 1/10W J *
R1349	NRSA02J-152X	MG R	1.5kΩ 1/10W J *
R1350	NRSA02J-271X	MG R	270Ω 1/10W J *
R1351	NRSA02J-222X	MG R	2.2kΩ 1/10W J *
R1372	NRSA02J-274X	MG R	270kΩ 1/10W J *
R1381	NRSA02J-102X	MG R	1kΩ 1/10W J *
R1382	NRSA02J-152X	MG R	1.5kΩ 1/10W J *

R1383	NRSA02J-822X	MG R	8.2kΩ 1/10W J *
R1384	NRSA02J-682X	MG R	68kΩ 1/10W J *
R1385	NRSA02J-273X	MG R	27kΩ 1/10W J *
R1386	NRSA02J-102X	MG R	1kΩ 1/10W J *
R1387	NRSA02J-683X	MG R	68kΩ 1/10W J *
R1388	NRSA02J-273X	MG R	27kΩ 1/10W J *
R1389	NRSA02J-102X	MG R	1kΩ 1/10W J *
R1390	NRSA02J-683X	MG R	68kΩ 1/10W J *

R1391	NRSA02J-273X	MG R	27kΩ 1/10W J *
R1392	NRSA02J-102X	MG R	1kΩ 1/10W J *
R1395-97	NRSA02J-080X	MG R	0.02 1/10W J *
R1398	NRSA02J-101X	MG R	100Ω 1/10W J *
R1401-02	NRSA02J-682X	MG R	6.8kΩ 1/10W J *
R1403	NRSA02J-222X	MG R	2.2kΩ 1/10W J *
R1404	QRX01G-130	MF R	1.0Ω 1W J *
R1405	QRQ29J-221	OM R	220Ω 2W J

R1406	NRSA02J-222X	MG R	2.2kΩ 1/10W J *
R1407	QRX01G-188	MF R	1.8Ω 1W J *
R1408	QRX01G-125	MF R	1.5Ω 1W J *
R1409-10	NRSA02J-103X	MG R	10kΩ 1/10W J *
R1461	NRSA02J-272X	MG R	2.7kΩ 1/10W J *
R1462	NRSA02J-563X	MG R	56kΩ 1/10W J *
R1463	NRSA02J-124X	MG R	100kΩ 1/10W J *
R1464	NRSA02J-123X	MG R	12kΩ 1/10W J *

R1465	NRSA02J-104X	MG R	3.3kΩ 1/10W J *
R1551	NRSA02J-100X	MG R	100Ω 1/10W J *
R1552	NRSA02J-124X	MG R	120kΩ 1/10W J *
R1553	NRSA02J-683X	MG R	68kΩ 1/10W J *
R1554	NRSA02J-562X	MG R	5.6kΩ 1/10W J *
R1555	NRSA02J-333X	MG R	33kΩ 1/10W J *
R1556	NRSA02J-47X	MG R	4.7kΩ 1/10W J *
R1557	NRSA02J-562X	MG R	5.6kΩ 1/10W J *

R1558	NRSA02J-104X	MG R	100kΩ 1/10W J *
R1559	NRSA02J-154X	MG R	150kΩ 1/10W J *
R1560	NRSA02J-103X	MG R	10Ω 1/10W J *

△ Symbol No. Part No. Part Name Description Local

RESISTOR

R1601	NRSA02J-103X	MG R	10kΩ 1/10W J *
R1602	NRSA02J-104X	MG R	100kΩ 1/10W J *
R1610	NRSA02J-471X	MG R	470Ω 1/10W J *
R1611	NRSA02J-100X	MG R	0.02 1/10W J *
R1613-14	NRSA02J-223X	MG R	12kΩ 1/10W J *

R1617-18	NRSA02J-682X	MG R	6.8kΩ 1/10W J *
R1619-20	NRSA02J-223X	MG R	22kΩ 1/10W J *
R1659-60	QRN143J-282X	C R	2.2Ω 1/4W J *
R1661	NRSA02J-561X	MG R	560Ω 1/10W J *
R1663-64	NRSA02J-223X	MG R	22kΩ 1/10W J *

R1667	NRSA02J-104X	MG R	100kΩ 1/10W J *
R1669	NRSA02J-473X	MG R	47kΩ 1/10W J *
R1670	NRSA02J-080X	MG R	0.02 1/10W J *
R1671	NRSA02J-273X	MG R	27kΩ 1/10W J *
R1672	NRSA02J-122X	MG R	1.2kΩ 1/10W J *

R1676	NRSA02J-773X	MG R	27kΩ 1/10W J *
R1677	NRSA02J-103X	MG R	10kΩ 1/10W J *
R1678	NRSA02J-563X	MG R	56kΩ 1/10W J *
R1679	NRSA02J-103X	MG R	10kΩ 1/10W J *
R1680	NRSA02J-773X	MG R	27kΩ 1/10W J *

R1684	NRSA02J-473X	MG R	47kΩ 1/10W J *
R1689-90	NRSA02J-103X	MG R	10kΩ 1/10W J *
R1691-92	NRSA02J-123X	MG R	12kΩ 1/10W J *
R1693-94	NRSA02J-103X	MG R	10kΩ 1/10W J *
R1700	NRSA02J-080X	MG R	0.02 1/10W J *

R1707	NRSA02J-102X	MG R	1kΩ 1/10W J *
R1709	NRSA02J-103X	MG R	10kΩ 1/10W J *
R1710	NRSA02J-104X	MG R	82Ω 1/10W J *
R1711	NRSA02J-102X	MG R	1kΩ 1/10W J *
R1712	NRSA02J-533X	MG R	15kΩ 1/10W J *

R1718	NRSA02J-103X	MG R	10kΩ 1/10W J *
R1720	NRSA02J-102X	MG R	1kΩ 1/10W J *
R1721-23	NRSA02J-472X	MG R	4.7kΩ 1/10W J *
R1724-26	NRSA02J-821X	MG R	82Ω 1/10W J *
R1727	NRSA02J-533X	MG R	15kΩ 1/10W J *

R1728	NRSA02J-103X	MG R	10kΩ 1/10W J *
R1729	NRSA02J-883X	MG R	6.8kΩ 1/10W J *
R1730	NRSA02J-223X	MG R	22kΩ 1/10W J *
R1731	NRSA02J-562X	MG R	5.6kΩ 1/10W J *

R1732	NRSA02J-103X	MG R	10kΩ 1/10W J *
R1733	NRSA02J-223X	MG R	2.2kΩ 1/10W J *
R1734	NRSA02J-103X	MG R	10kΩ 1/10W J *
R1735-36	NRSA02J-882X	MG R	6.8kΩ 1/10W J *
R1736	NRSA02J-183X	MG R	18kΩ 1/10W J *

△ Symbol No. Part No. Part Name Description Local

△ Symbol No. Part No. Part Name Description Local

RESISTOR

R1751-52	NRSA02J-103X	MG R	10kΩ 1/10W J *
R1752	NRSA02J-472X	MG R	4.7kΩ 1/10W J *
R1754	NRSA02J-103X		

△ Symbol No. Part No. Part Name Description Local

CAPACITOR

C1412	QFLC2AJ-1042	M CAP.	0.1μF 100V	J *
C1417-18	QETN1CM-1082	E CAP.	1000pF 16V	M *
C1419	NCF21HK-682X	C CAP.	6800pF 50V	K *
C1461	QETN1HM-262	E CAP.	220pF 50V	M *
C1551-52	NCF21CK-224X	C CAP.	0.22μF 16V	K *
C1553	QETN1HM-4762	E CAP.	47pF 25V	M *
C1554-55	NCF21CK-224X	C CAP.	0.22μF 16V	K *
C1601-02	QD313H-1R02	C CAP.	0.20pF 50V	J *
C1603-04	NCF21HK-103X	C CAP.	0.01μF 50V	K *
C1605-06	QETN1HM-1062	E CAP.	10μF 50V	M *
C1607-08	NCF21E2-104X	C CAP.	0.1μF 25V	Z *
C1609-12	QETN1HM-1052	E CAP.	1μF 50V	M *
C1612-14	NCF21H-471X	C CAP.	470pF 50V	J *
C1615	NCF21E2-104X	C CAP.	0.1μF 25V	Z *
C1616-18	QETN1HM-1062	E CAP.	10μF 50V	M *
C1619	NCF21E2-104X	C CAP.	0.1μF 25V	Z *
C1620	QETN1HM-1062	E CAP.	10μF 50V	M *
C1621-24	NCF21HK-102X	C CAP.	1000pF 50V	K *
C1625-26	NCF21HK-391X	C CAP.	390pF 50V	J *
C1627-28	NCF21HK-102X	C CAP.	1000pF 50V	K *
C1629	NCF21HK-103X	C CAP.	0.01μF 50V	K *
C1630	NCF21E2-104X	C CAP.	0.1μF 25V	Z *
C1631	QETN1CM-1072	E CAP.	10μF 16V	M *
C1632	NCF21E2-104X	C CAP.	0.1μF 25V	Z *

△ Symbol No. Part No. Part Name Description Local

CAPACITOR

C1759	NCF21HK-1041	C+P CAP.	0.1μF 50V	K *
C1760-61	NDC21HJ-152X	C CAP.	15pF 50V	J *
C1762	NCF21HK-1042	C+P CAP.	0.1μF 50V	K *
C1763	QETN1CM-4762	E CAP.	47pF 16V	M *
C1764	NCF21HK-1043	C+P CAP.	0.1μF 50V	K *
C1766-68	NCF21HK-1043	C+P CAP.	0.1μF 50V	K *
C1774	NDC21HJ-153X	C CAP.	150pF 50V	J *
C1780	NCF21HK-1044	C+P CAP.	0.1μF 50V	K *
C1781	NDC21HJ-101X	C CAP.	100pF 50V	J *
C1782	NCF21HK-102X	C CAP.	1000pF 50V	K *
C1783	NDC21HJ-151X	C CAP.	150pF 50V	J *
C1784	QETN1CM-227	E CAP.	220pF 16V	M *
C1901	QETN1CM-1072	E CAP.	100pF 16V	M *
C1902	QETN1HM-1062	E CAP.	10μF 50V	M *

TRANSFORMER

T1101	CE42697-001	LOWPASS FILTER		
T1111	CE42697-001	LOWPASS FILTER		
T1121	CE42697-001	LOWPASS FILTER		

COIL

L1001-02	QQL01BK-82Z	COIL	8.2μH	*
L1003	QQL01BK-22Z	COIL	220μH	*
L1004	QQL01BK-S6Z	COIL	5.6μH	*
L1101	QRN143J-0R03	C R	0.00 1/4W	J *
L1102-05	QQL03B-1ZCZ	COIL	22μH	*
L1111	QQL03B-1ZCZ	COIL	22μH	*
L1121	QQL03B-1ZCZ	COIL	33μH	*
L1301	QQL01BK-39Z	COIL	39μH	*
L1302	QQL01BK-S65Z	COIL	5.6μH	*
L1601-02	QRN143J-0R03	C R	0.00 1/4W	J *
L1604	QQL01BK-18Z	COIL	18μH	*
L1605	QQL01BK-2ZCZ	COIL	22μH	*
L1701	QQL01BK-4R7Z	COIL	4.7μH	*
L1702	QQL01BK-S65Z	COIL	5.6μH	*
L1752	QRN143J-0R03	C R	0.00 1/4W	J *
L1753	QQL01BK-4R7Z	COIL	4.7μH	*

DIODE

D1201-11	MA3130/H/-3	ZENER DIODE	*	
D1214-15	MA3130/H/-3	ZENER DIODE	*	
D1402	BY03B-73	SI DIODE	*	
D1403-04	MA3330/L/-3	ZENER DIODE	*	
D1461	MA111-X	SI DIODE	*	
D1462	MA3207M/-3	ZENER DIODE	*	
D1502	MA111-X	SI DIODE	*	
D1504	MA111-X	SI DIODE	*	
D1653-54	MA3330/L/-3	ZENER DIODE	*	
D1658	MA153A-X	SI DIODE	*	
D1660	MA111-X	SI DIODE	*	
D1661	MA153A-X	SI DIODE	*	
D1664-65	MA111-X	SI DIODE	*	
D1666	MA3062M/-3	ZENER DIODE	*	
D1667-68	MA3150M/-3	ZENER DIODE	*	
D1701-02	MA111-X	SI DIODE	*	
D1704	155244-T3	SI DIODE	*	
D1708	MA111-X	SI DIODE	*	
D1709	MA3068M/-3	ZENER DIODE	*	
D1710	MA111-X	SI DIODE	*	
D1712	MA111-X	SI DIODE	*	
D1751-53	MA111-X	SI DIODE	*	
D1754	MA3062M/-3	ZENER DIODE	*	
D1771-74	MA3056M/-3	ZENER DIODE	*	
D1901	MA3130/H/-3	ZENER DIODE	*	

IC

IC1101	TC9090AN	I.C. (DIGI-MOS)		
IC1301	CA1545AS	I.C. (MONO-ANA)	*	
IC1303	TD4143/N3	I.C. (MONO-ANA)	*	
IC1304	TD41665	I.C. (MONO-ANA)	*	
IC1305	LA7016	I.C. (MONO-ANA)	*	
IC1401	LA7841	I.C. (MONO-ANA)	*	
IC1551	LA6515	I.C. (MONO-ANA)	*	
IC1601	MS3410D-PP-B4	I.C. (DIGI-OTHER)	*	
IC1651	TA8246H	I.C. (HYBRID)	*	
IC1652	BA4558F-X	I.C. (MONO-ANA)	*	
IC1701	M37280MK-101SP	I.C.	*	
IC1702	L781055E-MA	I.C. (MONO-ANA)	*	
IC1703	AT24C162J2H24EP	I.C. (SERVICE)	*	
IC1754	SDA5735S	I.C. (MICRO-PROC)	*	
IC1755	MSM514400D-602S	I.C. (D-RAM)	*	

OTHERS

CEM5009-064	I.C. SOCKET			
CN1002	CHC10W-25T-AE	FFC CONNECTOR	*	
CN1008	CH401B-35P	HQ PLUG	*	
K1001	QRN143J-0R03	C R	0.00 1/4W	J *
K1009	QRN143J-0R03	C R	0.00 1/4W	J *
K1101	CE4143-001Z	BEADS CORE	*	
K1401	CE4143-001Z	BEADS CORE	*	
K1701	CE4143-001Z	BEADS CORE	*	

△ Symbol No. Part No. Part Name Description Local

TRANSISTOR

Q1101-04	ZSC2412K/QR/-X	S1. TRANSISTOR	*	
Q1111	ZSC2412K/QR/-X	S1. TRANSISTOR	*	
Q1123-14	ZSC2412K/QR/-X	S1. TRANSISTOR	*	
Q1121	ZSC2412K/QR/-X	S1. TRANSISTOR	*	
Q1122	ZSA1037AK/QR/-X	S1. TRANSISTOR	*	
Q1123-24	ZSC2412K/QR/-X	S1. TRANSISTOR	*	
Q1123-32	ZSC2412K/QR/-X	S1. TRANSISTOR	*	

TRANSISTOR

Q1201-02	ZSC2712/YG/-X	S1. TRANSISTOR	*	
Q1203	ZSC2151/YG/-T	S1. TRANSISTOR	*	
Q1204-05	ZSC2712/YG/-X	S1. TRANSISTOR	*	
Q1206-07	DTC323TK-X	DIGI. TRANSISTOR	*	
Q1208	ZSA1162/YG/-X	S1. TRANSISTOR	*	
Q1209	ZSA1015/YG/-T	S1. TRANSISTOR	*	
Q1211	ZSA1162/YG/-X	S1. TRANSISTOR	*	
Q1213-14	ZSC2712/YG/-X	S1. TRANSISTOR	*	

TRANSISTOR

Q1215-16	DTC323TK-X	DIGI. TRANSISTOR	*	
Q1217	ZSA1162/YG/-X	S1. TRANSISTOR	*	
Q1220-21	ZSC2712/YG/-X	S1. TRANSISTOR	*	
Q1301	ZSA1162/YG/-X	S1. TRANSISTOR	*	
Q1303-04	ZSA1162/YG/-X	S1. TRANSISTOR	*	
Q1305	DTC124EKA-X	DIGI. TRANSISTOR	*	
Q1345	ZSC2712/YG/-X	S1. TRANSISTOR	*	
Q1346	ZSC2712/YG/-X	S1. TRANSISTOR	*	

TRANSISTOR

Q1401-103	TC4141-103Y	C R	2.7kΩ 1/4W	J *
R2455	QRE141J-102Y	C R	1kΩ 1/4W	J *
R2456	QRE141J-473Y	C R	47kΩ 1/4W	J *
R2457	QRE141J-103Y	C R	10kΩ 1/4W	J *
R2458	QRA14CF-1062Y	M R	10kΩ 1/4W	F *
R2459	QRE141J-391Y	C R	390kΩ 1/4W	J *
R2461	QRE141J-102Y	C R	1kΩ 1/4W	J *
R2463	QRE029J-820	M R	82 Ω 2W	J *

TRANSISTOR

R2465	QRE141J-103Y	C R	10kΩ 1/4W	J *
R2501	QRE141J-471Y	C R	470kΩ 1/4W	J *
R2502	QRE141J-123Y	C R	12kΩ 1/4W	J *
R2503	QRE121J-152Y	C R	1.5kΩ 1/2W	J *
R2504-05	QRE039J-272	C R	2.7kΩ 3W	J *
R2506	QRE121J-586Y	C R	5.6Ω 1/2W	J *
R2507	QRE141J-152Y	C R	1.5kΩ 1/4W	J *
R2509	QRE141J-563Y	C R	56kΩ 1/4W	J *

TRANSISTOR

R2510	QRE141J-333Y	C R	33kΩ 1/4W	J *
R2511	QRE141			

△	Symbol No.	Part No.	Part Name	Description	Local
RESISTOR					
R2587	QRA14CF-2201Y	MF R	2.2kΩ 1/4W	F	*
R2588	QRE141-103Y	C R	10kΩ 1/4W	J	*
R2901	QRF104K-389	UNF R	3.9Ω 10W	K	*
R2902	QRE121J-331Y	C R	330Ω 1/2W	J	*
R2903-04	QRE121J-474Y	C R	470kΩ 1/2W	J	*
R2905	QRL039J-823	OM R	82kΩ 3W	J	*
R2906	QRE039J-683	OM R	68kΩ 3W	J	*
△ R2907	QRE9017-242	FUSI. RESISTOR	2.2 Ω 1/4W	J	*
R2908	QRE121J-152Y	C R	1.5kΩ 1/2W	J	*
R2909	QTO29J-393	MF R	0.39kΩ 2W	J	*
R2910	ORM059J-822	MP R	0.22Ω 5W	J	*
R2911	QRE121J-681Y	C R	680Ω 1/2W	J	*
R2912	QRE121J-332Y	C R	3.3kΩ 1/2W	J	*
R2913	QRE039J-823	OM R	82kΩ 3W	J	*
R2923	QRE121J-102Y	C R	1kΩ 1/2W	J	*
R2951	QRF074J-102	UNF R	1kΩ 7W	J	*
R2952	QRG029J-103	OM R	10kΩ 2W	J	*
R2953	QRG029J-183	OM R	18kΩ 2W	J	*
R2954	QRE141J-330Y	C R	33Ω 1/4W	J	*
R2955	QRE141J-681Y	C R	680Ω 1/4W	J	*
R2956	QROX039J-847	MF R	0.47Ω 2W	J	*
R2957	QRG029J-100	OM R	10 Ω 2W	J	*
R2958	QRE141J-153Y	C R	15kΩ 1/4W	J	*
R2956	QRE141J-82Y	C R	1.8kΩ 1/4W	J	*
R2962	QRE141J-153Y	C R	15kΩ 1/4W	J	*
R2963	QRE141J-682Y	C R	6.8kΩ 1/4W	J	*
R2968	QRE141J-103Y	C R	10kΩ 1/4W	J	*
R2969	QRE141J-682Y	C R	6.8kΩ 1/4W	J	*
R2969	QRE141J-682Y	C R	6.8kΩ 1/4W	J	*
R2970	QRE141J-682Y	C R	6.8kΩ 1/4W	J	*
R2971	QRE141J-682Y	C R	6.8kΩ 1/4W	J	*
R2983	QRE141J-122Y	C R	1.2kΩ 1/4W	J	*
R2984	QRE141J-104Y	C R	100kΩ 1/4W	J	*
R2985-86	QRE141J-103Y	C R	10kΩ 1/4W	J	*
R2987	QRE121J-680Y	C R	680Ω 1W	J	*
△ R2991	QRZ005J-825	C R	8.2MΩ 1W	J	*
CAPACITOR					
C2451	QCS31HJ-4702	C CAP.	47pF 50V	J	*
C2452	QFV1HJ-1042	MF CAP.	0.1μF 50V	J	*
C2453	QETW1HJ-4762	E CAP.	47μF 25V	M	*
C2455	QFLC1HJ-2222	M CAP.	2200pF 50V	J	*
C2456-57	QFM7D0J-1522	M CAP.	1500pF 200V	J	*
C2458	QE0471J-262	E CAP.	4.7μF 50V	M	*
C2460	QFP1LHJ-1022	PP CAP.	1000pF 50V	J	*
C2461	QFLC1HJ-182Z	M CAP.	1800pF 50V	J	*
C2501	QCB32HK-103	C CAP.	330pF 500V	K	*
C2502	QFM7D0K-103	M CAP.	0.01μF 200V	K	*
C2503	QFV1HJ-2242	MF CAP.	0.22μF 50V	J	*
△ C2511	QFZ012J-112	MPP CAP.	1100pF1.8V	8.8V ±3%	*
△ C2522	QF0111J-1202	MPP CAP.	0.012pF1.4V	H2.2S. 5%	*
C2523	QFM7D0K-393	M CAP.	0.039μF 200V	K	*
△ C2524	QFP12GJ-223	PP CAP.	0.021μF 400V	J	*
C2525	QFZ019A-914	MPP CAP.	0.91μF 250V	J	*
C2526	QFZ019A-474	MPP CAP.	0.47kΩ 250V	J	*
C2529	QCB32HK-561Z	C CAP.	560pF 500V	K	*
C2532	QETM2CM-227	E CAP.	220μF 160V	M	*
C2551	QCB32HK-152Z	C CAP.	1500pF 500V	K	*
C2552	QETW1CM-108Z	E CAP.	1000pF 16V	M	*
C2553	QCB32HK-152Z	C CAP.	1500pF 500V	K	*
C2554	QETW1CM-108Z	E CAP.	1000pF 16V	M	*
C2555	QEMC1HJ-335Z	BP E CAP.	3.3μF 50V	M	*
C2556	QCB32HK-102Z	C CAP.	1000pF 500V	K	*
C2557	QETW1CM-106Z	E CAP.	10μF 250V	M	*
C2581	QETW1CM-107Z	E CAP.	100μF 16V	M	*
C2582	QETW1CM-476Z	E CAP.	47μF 25V	M	*
C2583	QETN2AM-106Z	E CAP.	10μF 100V	M	*
CAPACITOR					
C2584	QETW1AN-227Z	E CAP.	220μF 10V	M	*
C2585	QF2019A-534	MPP CAP.	0.53μF 250V	J	*
△ C2901	QF29040-473	MF CAP.	0.047μFAC25V	M	*
△ C2902	QZC954-472	C CAP.	4700pFAC250V	Z	*
△ C2903	QZC954-472	C CAP.	4700pFAC250V	Z	*
△ C2904	QZC954-472	C CAP.	4700pFAC250V	Z	*
C2905	QE02199-227	E CAP.	220μF 400V	M	*
C2906	QCB32HK-103	C CAP.	0.01μF 500V	K	*
C2907	QZC012J-391	C CAP.	390pF 2kV	K	*
C2908	QETW1HJ-4762	E CAP.	47μF 50V	M	*
C2909	QCB31HK-182Z	C CAP.	1800pF 50V	K	*
C2910	QZC012J-361	C CAP.	560pF 2000V	K	*
C2911	QCB31HK-561Z	C CAP.	560pF 50V	K	*
C2912	QETW1HJ-227E	E CAP.	220μF 25V	M	*
C2921	QETW1HJ-106Z	E CAP.	10μF 50V	M	*
C2922-23	QETW1HJ-106Z	E CAP.	220μF 160V	M	*
C2951	QZC954-227	E CAP.	220μF 16V	M	*
C2952	QEMC1HJ-228	E CAP.	2200pF 16V	M	*
C2953	QEMC1HJ-228	E CAP.	2200pF 16V	M	*
C2954	QEMC1HJ-228	E CAP.	2200pF 16V	M	*
C2955	QEMC1HJ-228	E CAP.	2200pF 16V	M	*
C2956	QEMC1HJ-228	E CAP.	2200pF 16V	M	*
C2957	QEMC1HJ-338	E CAP.	3300pF 25V	M	*
C2958-60	QCB31HK-102Z	C CAP.	1000pF 500V	K	*
C2967	QEMC1HJ-228	E CAP.	2200pF 16V	M	*
C2968	QZC010J-104Z	C CAP.	0.1μF 25V	Z	*
C2970	QETW1HJ-227Z	E CAP.	2200pF 16V	M	*
C2972-73	QEMC1HJ-477Z	E CAP.	470μF 10V	M	*
C2974-75	QZC025M-128	E CAP.	1200pF 10V	M	*
C2976	QETW1HJ-227Z	E CAP.	220μF 10V	M	*
C2977	QFV1HJ-684Z	MF CAP.	0.68μF 50V	J	*
C2978	QZC012J-471	C CAP.	470pF 2000V	K	*
△ C2991	QZC907J-332	C CAP.	3300pFAC250V	K	*
△ C2992	QZC907J-471	C CAP.	470pFAC250V	K	*
TRANSFORMER					
T2501	QGR0842-001	HOR. DEF. TRANSF.	*		
	QGR076E-001	PINC. TRANSF.	*		
△ T2551	CETW05E-008	FBT	(SERVICE)		
△ T2901	CET5139-001J4	SW TRANSF.	*		
△ T2921	QQT0147-001	POWER TRANSF.	*		
COIL					
L2451	QBL43AJ-332	CHOKE COIL			
L2452	QBL20J-801	CHOKE COIL			
L2522	QCB0951-002	LINEARITY COIL	*		
L2551	QBL20J-560	HEATER CHOKE	*		
L2901-02	QBL40J1K-100Z	CHOKE COIL	*		
L2951	QBL20J-460	HEATER CHOKE	*		
L2952-54	QBL26AJ-220Z	COIL	22μH	*	
L2955	QBL0518-001	CHOKE COIL			
L2956	QBL20J-460	HEATER CHOKE	*		
L2957	QBL26AJ-220Z	COIL	22μH	*	
DIODE					
D2454	BY0320-T3	SI. DIODE	*		
D2501	1558J-75	SI. DIODE	*		
D2502	15513J-72	SI. DIODE	*		
D2503	MTZ15B-T2	ZENER DIODE	*		
D2521	VL1CA-C1	SI. DIODE	*		
D2522	FWN-1PU-F1	SI. DIODE	*		
D2551-52	BYW55B-20	SI. DIODE	*		
D2553	BY033G-T3	SI. DIODE	*		
D2554	MTZ14.7A-T2	ZENER DIODE	*		
DIODE					
D2555	QETW1CM-106Z	E CAP.	1000pF 500V	M	*
C2556	QCB32HK-102Z	C CAP.	1000pF 500V	K	*
C2557	QETW1CM-106Z	E CAP.	10μF 250V	M	*
C2581	QETW1CM-107Z	E CAP.	100μF 16V	M	*
C2582	QETW1CM-476Z	E CAP.	47μF 25V	M	*
C2583	QETN2AM-106Z	E CAP.	10μF 100V	M	*
CAPACITOR					
C3101	QETW1CM-106Z	E CAP.	10μF 50V	M	*
C3103	QETW1CM-335Z	E CAP.	3.3μF 50V	M	*
C3104	QETW1CM-107Z	E CAP.	100μF 16V	M	*
C3105	QCS31HJ-101Z	C CAP.	100pF 50V	J	*
C3106	QCS31HJ-181Z	C CAP.	180pF 50V	J	*
C3107	QETW2CM-106Z	E CAP.	100μF 16V	M	*
C3108-09	QCB32HK-472Z	C CAP.	4700pF 500V	K	*
C3110	QETW2CM-106Z	E CAP.	10μF 160V	M	*
C3111-12	QETW1AM-107Z	E CAP.	100μF 10V	M	*
C3113	QETW1AM-337Z	E CAP.	330μF 10V	M	*
C3114	QCS31HJ-470Z	C CAP.	47pF 500V	J	*
C3115	QCS31HJ-580Z	C CAP.	5.0pF 50V	J	*
C3118	QEN1CMH-106Z	BP E CAP.	10μF 50V	M	*
C3201-03	QCS31HJ-880Z	C CAP.	8.0pF 50V	J	*
C3204	QZD1020-104Z	C CAP.	1.0Ω 25V	Z	*
C3205	QZD1020-104Z	C CAP.	1.0Ω 25V	Z	*
C3206	QZD1020-104Z	C CAP.	1.0Ω 25V	Z	*
C3207-09	QETW1EM-476Z	E CAP.	47μF 25V	M	*
C3210-12	QPK62K-104Z	MM CAP.	0.1μF 250V	K	*
C3213-15	QCS31HJ-181Z	C CAP.	180pF 50V	J	*
C3216	QETW1CM-107Z	E CAP.	100μF 16V	M	*
C3218	QETW2M-336	E CAP.	33μF 250V	M	*

CRT SOCKET PW BOARD ASS'Y (SMD-3002A-U2)

△	Symbol No.	Part No.	Part Name	Description	Local
RESISTOR					
R3101	QRE141J-272Y	C R	2.7kΩ 1/4W	J	*
R3102	QRE141J-153Y	C R	15kΩ 1/4W	J	*
R3103	QRE141J-152Y	C R	1.5kΩ 1/4W	J	*
R3104	QRE141J-680Y	C R	680Ω 1/4W	J	*
R3105	QRE141J-221Y	C R	220Ω 1/4W	J	*
△ R3106	QRE141J-100X	C R	10Ω 1/4W	J	*
R3107-08	QRE141J-470Y	C R	47Ω 1/4W	J	*
△ R3109	QZQ29021-561	FUSI. RESISTOR	560 Ω 1W	J	*
DIODE					
D2555-56	BY033G-T3	SI. DIODE	*		
D2581	MTZ15B-T2	ZENER DIODE	*		
D2582	MTZ17J-58-T2	ZENER DIODE	*		
D2583	MTZ17J-55-T2	ZENER DIODE	*		
D2584	BY033G-T3	SI. DIODE	*		
△ D2901	D35660	BRIDGE DIODE	*		
D2902	BY033M-T3	SI. DIODE	*		
△ D2903	BY033D-13	SI. DIODE	*		
D2904	BY033D-T3	SI. DIODE	*		
D2905	ISS1513-T2	SI. DIODE	*		
D2906	MTZ15B-T2	ZENER DIODE	*		
D2907-24	IA400-172	SI. DIODE	*		

△	Symbol No.	Part No.	Part Name	Description	Local
CAPACITOR					
C3219	QF20097-223	MM CAP.	0.022μF 1250V	K	*
C3221	QET2EM-1062	E CAP.	10μF 250V	M	*
C3301	QET1CM-1072	E CAP.	100μF 16V	M	*
C3302	QFLC1HJ-1032	M CAP.	0.01μF 50V	J	*
COIL					
L3201-03	QQL01BK-4R7Z	COIL	4.7μH	*	
L3301	QQL26AJ-102Z	COIL	1μH		
DIODE					
D3101-02	RH5-T3	S1. DIODE			*
D3151	155133-T2	S1. DIODE			*
D3204-06	E0101K-T2	S1. DIODE			*
D3208-10	15R124-400A-T2	S1. DIODE			*
D3301	155252-T2	S1. DIODE			*
D3302-03	155133-T2	S1. DIODE			*
TRANSISTOR					
Q3102-03	2SC3311A/QR/-T	S1. TRANSISTOR			*
Q3104	2SA1309A/QR/-T	S1. TRANSISTOR			*
Q3105	2SA1837	S1. TRANSISTOR			*
Q3106	2SC4793	S1. TRANSISTOR			*
Q3301	2SA1015/YG/-T	S1. TRANSISTOR			*
Q3302	2SC2655/YV/-T	S1. TRANSISTOR			*
Q3303	2SA1015/YG/-T	S1. TRANSISTOR			*
Q3304-05	2SC3311A/QR/-T	S1. TRANSISTOR			*
I C					
IC3201-03	TDA6111Q	I.C. (MONO-ANA)			*
OTHERS					
K3101-04	CE41492-0012	CHOKE COIL			*
K3105	CE41433-0012	BEADS CORE			*
△ S3201-03	CE42447-501	ARRESTOR			
△ SK3001	CE42535-001J1	C.R.T. SOCKET			*

AUDIO PW BOARD ASS'Y (SMD-6002A-U2)

Refer to PARTS LIST in page 46 for this P.W. board.

FRONT CONTROL PW BOARD ASS'Y (SMD-8002A-U2)

Refer to PARTS LIST in page 47 for this P.W. board.

DOLBY PW BOARD ASS'Y (SMD0D001A-U2)

Refer to PARTS LIST in page 47 for this P.W. board.

IF PW BOARD ASS'Y (SMD0F001A-U2)

Refer to PARTS LIST in page 48 for this P.W. board.

AV TERMINAL PW BOARD ASS'Y (SMD0J001A-U2)

Refer to PARTS LIST in page 51 for this P.W. board.

SUB MICON & AUTO PANORAMA PW BOARD ASS'Y (SMD0W001A-U2)

Refer to PARTS LIST in page 51 for this P.W. board.

100Hz PW BOARD ASS'Y (SMD0Z003A-U2)

△ Symbol No. Part No. Part Name Description Local

RESISTOR

R0001-02	NRS0A02J-101X	MG R	100Ω 1/10W	J	*
R0004	NRS0A02J-222X	MG R	2.2kΩ 1/10W	J	*
R0005	NRS0A02J-472X	MG R	4.7kΩ 1/10W	J	*
R0101	NRS0A02J-101X	MG R	100Ω 1/10W	J	*
R0102	NRS0A02J-102X	MG R	1kΩ 1/10W	J	*
R0103	NRS0A02J-331X	MG R	3.3kΩ 1/10W	J	*
R0104	NRS0A02J-222X	MG R	2.2kΩ 1/10W	J	*
R0105	NRS0A02J-473X	MG R	4.7kΩ 1/10W	J	*
R0106	NRS0A02J-273X	MG R	27kΩ 1/10W	J	*
R0107	NRS0A02J-331X	MG R	3.3kΩ 1/10W	J	*
R0108	NRS0A02J-181X	MG R	180Ω 1/10W	J	*
R0109-10	NRS0A02J-101X	MG R	100Ω 1/10W	J	*
R0111	NRS0A02J-222X	MG R	2.2kΩ 1/10W	J	*
R0112	NRS0A02J-101X	MG R	100Ω 1/10W	J	*
R0113	NRS0A02J-471X	MG R	4.7kΩ 1/10W	J	*
R0114	NRS0A02J-221X	MG R	220Ω 1/10W	J	*
R0121	NRS0A02J-101X	MG R	100Ω 1/10W	J	*
R0122	NRS0A02J-102X	MG R	1kΩ 1/10W	J	*
R0123	NRS0A02J-331X	MG R	3.3kΩ 1/10W	J	*
R0124	NRS0A02J-222X	MG R	2.2kΩ 1/10W	J	*
R0125	NRS0A02J-473X	MG R	4.7kΩ 1/10W	J	*
R0126	NRS0A02J-273X	MG R	27kΩ 1/10W	J	*
R0127	NRS0A02J-271X	MG R	270Ω 1/10W	J	*
R0128	NRS0A02J-181X	MG R	180Ω 1/10W	J	*
R0129	NRS0A02J-101X	MG R	100Ω 1/10W	J	*
R0130	NRS0A02J-330X	MG R	33Ω 1/10W	J	*
R0131	NRS0A02J-222X	MG R	2.2kΩ 1/10W	J	*
R0132	NRS0A02J-101X	MG R	100Ω 1/10W	J	*
R0133	NRS0A02J-471X	MG R	4.7kΩ 1/10W	J	*
R0134	NRS0A02J-221X	MG R	220Ω 1/10W	J	*
R0141	NRS0A02J-101X	MG R	100Ω 1/10W	J	*
R0142	NRS0A02J-102X	MG R	1kΩ 1/10W	J	*
R0143	NRS0A02J-331X	MG R	33Ω 1/10W	J	*
R0144	NRS0A02J-222X	MG R	2.2kΩ 1/10W	J	*
R0145	NRS0A02J-473X	MG R	4.7kΩ 1/10W	J	*
R0146	NRS0A02J-273X	MG R	27kΩ 1/10W	J	*
R0147	NRS0A02J-271X	MG R	270Ω 1/10W	J	*
R0148	NRS0A02J-181X	MG R	180Ω 1/10W	J	*
R0149	NRS0A02J-101X	MG R	100Ω 1/10W	J	*
R0150	NRS0A02J-150X	MG R	15Ω 1/10W	J	*
R0151	NRS0A02J-222X	MG R	2.2kΩ 1/10W	J	*
R0152	NRS0A02J-101X	MG R	100Ω 1/10W	J	*
R0153	NRS0A02J-471X	MG R	4.7kΩ 1/10W	J	*
R0154	NRS0A02J-221X	MG R	220Ω 1/10W	J	*
R0155	NRS0A02J-100X	MG R	10Ω 1/10W	J	*
R0156	NRS0A02J-122X	MG R	1.2kΩ 1/10W	J	*
R0157	NRS0A02J-150X	MG R	56Ω 1/10W	J	*
R0158	NRS0A02J-680X	MG R	680Ω 1/10W	J	*
R0159	NRS0A02J-101X	MG R	100Ω 1/10W	J	*
R0160	NRS0A02J-333X	MG R	33Ω 1/10W	J	*
R0161	NRS0A02J-223X	MG R	22Ω 1/10W	J	*
R0162	NRS0A02J-122X	MG R	1.2kΩ 1/10W	J	*
R0163	NRS0A02J-181X	MG R	180Ω 1/10W	J	*
R0164	NRS0A02J-680X	MG R	680Ω 1/10W	J	*
R0165	NRS0A02J-0RDX	MG R	0.0Ω 1/10W	J	*
R0171	NRS0A02J-101X	MG R	100Ω 1/10W	J	*
R0172	NRS0A02J-102X	MG R	1kΩ 1/10W	J	*
R0173	NRS0A02J-182X	MG R	1.8kΩ 1/10W	J	*
R0174	NRS0A02J-560X	MG R	56Ω 1/10W	J	*
R0175	NRS0A02J-105X	MG R	1MΩ 1/10W	J	*
R0176	NRS0A02J-681X	MG R	680Ω 1/10W	J	*
R0177	NRS0A02J-104X	MG R	100Ω 1/10W	J	*
R0178	NRS0A02J-101X	MG R	100Ω 1/10W	J	*
R0179	NRS0A02J-471X	MG R	470Ω 1/10W	J	*
R0180	NRS0A02J-102X	MG R	1kΩ 1/10W	J	*
R0181-82	NRS0A02J-392X	MG R	3.9kΩ 1/10W	F	*

△	Symbol No.	Part No.	Part Name	Description	Local
RESISTOR					
R0183-84	NRS0A02J-122X	MG R	1.2kΩ 1/10W	J	*
R0185	NRS0A02J-392X	MG R	3.9kΩ 1/10W	F	*
R0186	NRS0A02J-332X	MG R	3.3kΩ 1/10W	F	*
R0187	NRS0A02J-101X	MG R	100Ω 1/10W	J	*
R0188	NRS0A02J-563X	MG R	56Ω 1/10W	J	*
R0189	NRS0A02J-470X	MG R	47Ω 1/10W	J	*
R0190	NRS0A02J-102X	MG R	1kΩ 1/10W	J	*
R0191	NRS0A02J-223X	MG R	22kΩ 1/10W	J	*
R0192	NRS0A02J-220X	MG R	22Ω 1/10W	J	*
R0193	NRS0A02J-104X	MG R	100kΩ 1/10W	J	*
R0201-16	NRS0A02J-101X	MG R	100Ω 1/10W	J	*
R0221-36	NRS0A02J-101X	MG R	100Ω 1/10W	J	*
R0303-18	NRS0A02J-101X	MG R	100Ω 1/10W	J	*
R0401	NRS0A02J-102X	MG R	10kΩ 1/10W	J	*
R0403	NRS0A02J-223X	MG R	22kΩ 1/10W	J	*
R0404	NRS0A02J-222X	MG R	2.2kΩ 1/10W	J	*
R0406	NRS0A02J-102X	MG R	1kΩ 1/10W	J	*
R0408	NRS0A02J-561X	MG R	56Ω 1/10W	J	*
R0409	NRS0A02J-102X	MG R	1kΩ 1/10W	J	*
R0411	NRS0A02J-0RDX	MG R	0.0Ω 1/10W	J	*
R0412	NRS0A02J-561X	MG R	56Ω 1/10W	J	*
R0413	NRS0A02J-101X	MG R	100Ω 1/10W	J	*
R0415	NRS0A02J-151X	MG R	15Ω 1/10W	J	*
R0417	NRS0A02J-102X	MG R	1kΩ 1/10W	J	*
R0418	NRS0A02J-220X	MG R	22Ω 1/10W	J	*
R0419	NRS0A02J-101X	MG R	100Ω 1/10W	J	*
R0420	NRS0A02J-471X	MG R	47Ω 1/10W	J	*
R0425	NRS0A02J-0RDX	MG R	0.0Ω 1/10W	J	*
R0426	NRS0A02J-122X	MG R	1.2kΩ 1/10W	J	*
R0428	NRS0A02J-472X	MG R	4.7kΩ 1/10W	F	*
R0429	NRS0A02J-333X	MG R	33Ω 1/10W	F	*
R0431	NRS0A02J-0RDX	MG R	0.0Ω 1/10W	J	*
R0432	NRS0A02J-561X	MG R	56Ω 1/10W	J	*
R0433	NRS0A02J-101X	MG R	100Ω 1/10W	J	*
R0435	NRS0A02J-151X	MG R	15Ω 1/10W	J	*
R0437	NRS0A02J-102X	MG R	1kΩ 1/10W	J	*
R0438	NRS0A02J-220X	MG R	22Ω 1/10W	J	*
R0439	NRS0A02J-101X	MG R	100Ω 1/10W	J	*
R0440	NRS0A02J-471X	MG R	47Ω 1/10W	J	*
R0441	NRS0A02J-122X	MG R	1.2kΩ 1/10W	J	*
R0442	NRS0A02J-472X	MG R	4.7kΩ 1/10W	F	*
R0443	NRS0A02J-333X	MG R	33Ω 1/10W	F	*
R0451	NRS0A02J-0RDX	MG R	0.0Ω 1/10W	J	*
R0452	NRS0A02J-561X	MG R	56Ω 1/10W	J	*
R0453	NRS0A02J-101X	MG R	100Ω 1/10W	J	*
R0455	NRS0A02J-151X	MG R	15Ω 1/10W	J	*
R0457	NRS0A02J-102X	MG R	1kΩ 1/10W	J	*
R0458	NRS0A02J-220X	MG R	22Ω 1/10W	J	*
R0459	NRS0A02J-101X	MG R	100Ω 1/10W	J	*
R0460	NRS0A02J-471X	MG R	47Ω 1/10W	J	*
R0461	NRS0A02J-122X	MG R	1.2kΩ 1/10W	J	*
R0462	NRS0A02J-472X	MG R	4.7kΩ 1/10W	F	*
R0463	NRS0A02J-333X	MG R	33Ω 1/10W	F	*
R0471	NRS0A02J-0RDX	MG R	0.0Ω 1/10W	J	*
R0472	NRS0A02J-391X	MG R	39Ω 1/10W	J	*
R0473	NRS0A02J-101X	MG R	100Ω 1/10W	J	*
R0474	NRS0A02J-330X	MG R	33Ω 1/10W	J	*
R0475	NRS0A02J-122X	MG R	1.2kΩ 1/10W	J	*
R0477	NRS0A02J-102X	MG R	1kΩ 1/10W	J	*
R0478	NRS0A02J-220X	MG R	22Ω 1/10W	J	*
R0479	NRS0A02J-101X	MG R	100Ω 1/10W	J	*

△ Symbol No. Part No. Part Name Description Local
RESISTOR

R0491-92	NRS02J-102X	MG R	1kΩ 1/10W J *
R0501	NRS02J-563X	MG R	56kΩ 1/10W J *
R0504	NRS02J-472X	MG R	4.7kΩ 1/10W J *
R0505	NRS02J-272X	MG R	2.7kΩ 1/10W J *
R0506	NRS02J-472X	MG R	4.7kΩ 1/10W J *
R0507	NRS02J-GR0X	MG R	0.00 1/10W J *
R0512	NRS02J-101X	MG R	10kΩ 1/10W J *
R0514-15	NRS02J-682X	MG R	6.8kΩ 1/10W J *
R0516	NRS02J-GR0X	MG R	0.00 1/10W J *
R0602-03	NRS02J-680X	MG R	68Ω 1/10W J *
R0604	QRN143-221X	C R	220Ω 1/4W J *
R0606	NRS02J-680X	MG R	68Ω 1/10W J *
R0607-08	NRS02J-GR0X	MG R	0.00 1/10W J *
R0609	NRS02J-100X	MG R	100Ω 1/10W J *
R0610	NRS02J-GR0X	MG R	0.00 1/10W J *
R0611	NRS02J-100X	MG R	100Ω 1/10W J *
R0612-13	NRS02J-560X	MG R	56Ω 1/10W J *
R0614	NRS02J-100X	MG R	100Ω 1/10W J *
R0615	NRS02J-822X	MG R	8.2kΩ 1/10W J *
R0616	NRS02J-233X	MG R	22kΩ 1/10W J *
R0704	NRS02J-GR0X	MG R	0.00 1/10W J *
R0705-06	NRS02J-123X	MG R	12kΩ 1/10W J *
R0708	NRS02J-123X	MG R	12kΩ 1/10W J *
R0709	NRS02J-103X	MG R	10kΩ 1/10W J *
R0714	NRS02J-123X	MG R	12kΩ 1/10W J *
R0715	NRS02J-333X	MG R	33kΩ 1/10W J *
R0716	NRS02J-153X	MG R	15kΩ 1/10W J *
R0717	NRS02J-123X	MG R	12kΩ 1/10W J *
R0718	NRS02J-153X	MG R	15kΩ 1/10W J *
R0719	NRS02J-472X	MG R	4.7kΩ 1/10W J *
R0720	NRS02J-333X	MG R	33kΩ 1/10W J *
R0721	NRS02J-123X	MG R	12kΩ 1/10W J *
R0723	NRS02J-682X	MG R	6.8kΩ 1/10W J *
R0724	NRS02J-772X	MG R	2.7kΩ 1/10W J *
R0726	NRS02J-563X	MG R	56kΩ 1/10W J *
R0727	NRS02J-274X	MG R	220kΩ 1/10W J *
R0731	NRS02J-GR0X	MG R	0.00 1/10W J *
R0733	NRS02J-154X	MG R	150kΩ 1/10W J *
R0734	NRS02J-123X	MG R	12kΩ 1/10W J *
R0736	NRS02J-123X	MG R	12kΩ 1/10W J *
R0737	NRS02J-224X	MG R	220kΩ 1/10W J *
R0738	NRS02J-273X	MG R	27kΩ 1/10W J *
R0739	NRS02J-562X	MG R	5.6kΩ 1/10W J *
R0740	NRS02J-682X	MG R	6.8kΩ 1/10W J *
R0741	NRS02J-223X	MG R	22kΩ 1/10W J *
R0742	NRS02J-224X	MG R	220kΩ 1/10W J *
R0743	NRS02J-683X	MG R	68kΩ 1/10W J *
R0744	NRS02J-224X	MG R	220kΩ 1/10W J *
R0745-46	NRS02J-563X	MG R	56kΩ 1/10W J *

CAPACITOR

C0001	NEH71CM-476X	E CAP.	47μF 16V M
C0002	NCF21E2-104X	C CAP.	0.1μF 25V Z *
C0003	NEH71CM-476X	E CAP.	47μF 16V M
C0004	NCF21E2-104X	C CAP.	0.1μF 25V Z *
C0005	NEH71CM-476X	E CAP.	47μF 16V M
C0006	NCF21E2-104X	C CAP.	0.1μF 25V Z *
C0007	NEH71CM-476X	E CAP.	47μF 16V M
C0008	NCF21E2-104X	C CAP.	0.1μF 25V Z *
C0009	NDC21HJ-121X	C CAP.	120pF 50V J *
C0011	NDC21HJ-270X	C CAP.	27pF 50V J *
C0102	NDC21HJ-121X	C CAP.	120pF 50V J *
C0103	NDC21HJ-680X	C CAP.	68pF 50V J *
C0104	NEN51EM-106X	CHIP AL BP E CAP	10pF 25V M
C0105	NCF21H2-224X	C CAP.	0.22μF 50V Z *
C0106	NCF21E2-104X	C CAP.	0.1μF 25V Z *

△ Symbol No. Part No. Part Name Description Local
CAPACITOR

C0107	NDC21HJ-390X	C CAP.	39pF 50V J *
C0108	NEH71CM-476X	E CAP.	47μF 16V M
C0109	NEN51HM-105X	CHIP AL BP E CAP	1pF 50V M
C0110	NCB21HK-103X	C CAP.	0.01μF 50V K *
C0111	NDC21HJ-181X	C CAP.	180pF 50V J *
C0112-14	NEH71CM-106X	E CAP.	10pF 16V M
C0122	NDC21HJ-121X	C CAP.	120pF 50V J *
C0123	NDC21HJ-680X	C CAP.	68pF 50V J *
C0124	NEN51HM-105X	CHIP AL BP E CAP	1pF 50V M
C0125	NCF21H2-224X	C CAP.	0.22μF 50V Z *
C0126	NCF21E2-104X	C CAP.	0.1μF 25V Z *
C0142	NDC21HJ-121X	C CAP.	120pF 50V J *
C0143	NDC21HJ-680X	C CAP.	68pF 50V J *
C0144	NEN51HM-105X	CHIP AL BP E CAP	1pF 50V M
C0145	NCF21H2-224X	C CAP.	0.22μF 50V Z *
C0146	NCF21E2-104X	C CAP.	0.1μF 25V Z *
C0151	NCB21HK-103X	C CAP.	0.01μF 50V K *
C0152	QETN0M-228Z	E CAP.	220pF 6.3V M
C0153	NCF21E2-104X	C CAP.	0.1μF 25V Z *
C0154-55	NEH71HM-105X	E CAP.	1pF 50V M
C0156-57	NCF21E2-104X	C CAP.	0.1μF 25V Z *
C0161-62	NEH71CM-106X	E CAP.	10pF 16V M
C0163	NCF21E2-104X	C CAP.	0.1μF 25V Z *
C0164	NEH71CM-105X	E CAP.	10pF 16V M
C0165-80	NCF21E2-104X	C CAP.	0.1μF 25V Z *
C0181-82	NDC21HJ-880X	C CAP.	8.0pF 50V J *
C0191	NCF21E2-104X	C CAP.	0.1μF 25V Z *
C0192	NEH71CM-106X	E CAP.	10pF 16V M
C0193	NCB21HK-103X	C CAP.	0.01μF 50V K *
C0201-02	QETN0M-477Z	E CAP.	470pF 6.3V M
C0203-07	NCF21E2-104X	C CAP.	0.1μF 25V Z *
C0208-09	NDC21HJ-150X	C CAP.	15pF 50V J *
C0301-19	NCF21E2-104X	C CAP.	0.1μF 25V Z *
C0401	NEH71CM-106X	E CAP.	10pF 16V M
C0402	NCF21E2-104X	C CAP.	0.1μF 25V Z *
C0403	NEH71CM-106X	E CAP.	10pF 16V M
C0404	NCF21E2-104X	C CAP.	0.1μF 25V Z *
C0405-06	NDC21HJ-120X	C CAP.	12pF 50V J *
C0408-13	NCB21HK-103X	C CAP.	0.01μF 50V K *
C0414	NCF21E2-104X	C CAP.	0.1μF 25V Z *
C0415	NEH71HM-105X	E CAP.	1pF 50V M
C0416	NEH71CM-106X	E CAP.	10pF 16V M
C0417	NCF21E2-104X	C CAP.	0.1μF 25V Z *
C0420	NEH71HM-105X	E CAP.	1pF 50V M
C0422	NRS02J-GR0X	MG R	0.00 1/10W J *
C0424	NEH71HM-105X	E CAP.	1pF 50V M
C0425	NEH71CM-476X	E CAP.	47μF 16V M
C0426	NCF21E2-104X	C CAP.	0.1μF 25V Z *
C0432	NRS02J-GR0X	MG R	0.00 1/10W J *
C0434	NEH71HM-105X	E CAP.	1pF 50V M
C0435	NCF21E2-104X	C CAP.	0.1μF 25V Z *
C0452	NRS02J-GR0X	MG R	0.00 1/10W J *
C0454	NEH71HM-105X	E CAP.	1pF 50V M
C0455	NCF21E2-104X	C CAP.	0.1μF 25V Z *
C0472	NRS02J-GR0X	MG R	0.00 1/10W J *
C0474	NEH71HM-105X	E CAP.	1pF 50V M
C0475-76	NCF21E2-104X	C CAP.	0.1μF 25V Z *
C0477	NDC21HJ-561X	C CAP.	560pF 50V J *
C0501	NCB21HK-333X	C CAP.	0.032μF 50V K *
C0504	NCB21HK-562X	C CAP.	560pF 50V K *
C0505-06	NCB21HK-393X	C CAP.	0.039μF 50V K *
C0507	NDC21HJ-101X	C CAP.	100pF 50V J *
C0601	NCF21E2-104X	C CAP.	0.1μF 25V Z *
C0602	NEH71CM-765X	E CAP.	47μF 16V M
C0603	NCF21E2-104X	C CAP.	0.1μF 25V Z *
C0605	NCF21E2-104X	C CAP.	0.1μF 25V Z *
C0606	NDC21HJ-681X	C CAP.	580pF 50V J *
C0701	NCB21HK-102X	C CAP.	1000pF 50V K *

△ Symbol No. Part No. Part Name Description Local
CAPACITOR

C0706	NCB21EK-154X	C CAP.	0.15μF 25V K *
C0707	NCB21EK-104X	C CAP.	0.1μF 25V K
C0708	NCF21E2-104X	C CAP.	0.01μF 50V K *
C0709	NCF21E2-104X	C CAP.	0.1μF 25V Z *
C0710	NEH71CM-106X	E CAP.	10μF 16V M
C0711	NCF21E2-104X	C CAP.	0.1μF 25V Z *
C0712	NEH71CM-106X	E CAP.	10μF 16V M
C0713	NCB21HK-473X	C CAP.	0.047μF 50V K *

COIL

L0001-05	NQ02BZ-4R7X	COIL	4.7μH *
L0101	NQ011K-3R3X	COIL	3.3μH *
L0121	NQ011K-3R3X	COIL	3.3μH *
L0141	NQ011K-3R3X	COIL	3.3μH *
L0161	NQ012B-100X	COIL	10μH *
L0162	NQ012B-3R3X	COIL	3.3μH *
L0163-64	NQ012B-100X	COIL	10μH *
L0201-02	NQ012B-100X	COIL	10μH *
L0301-02	NQ02BZ-4R7X	COIL	4.7μH *

△ Symbol No. Part No. Part Name Description Local
TRANSISTOR

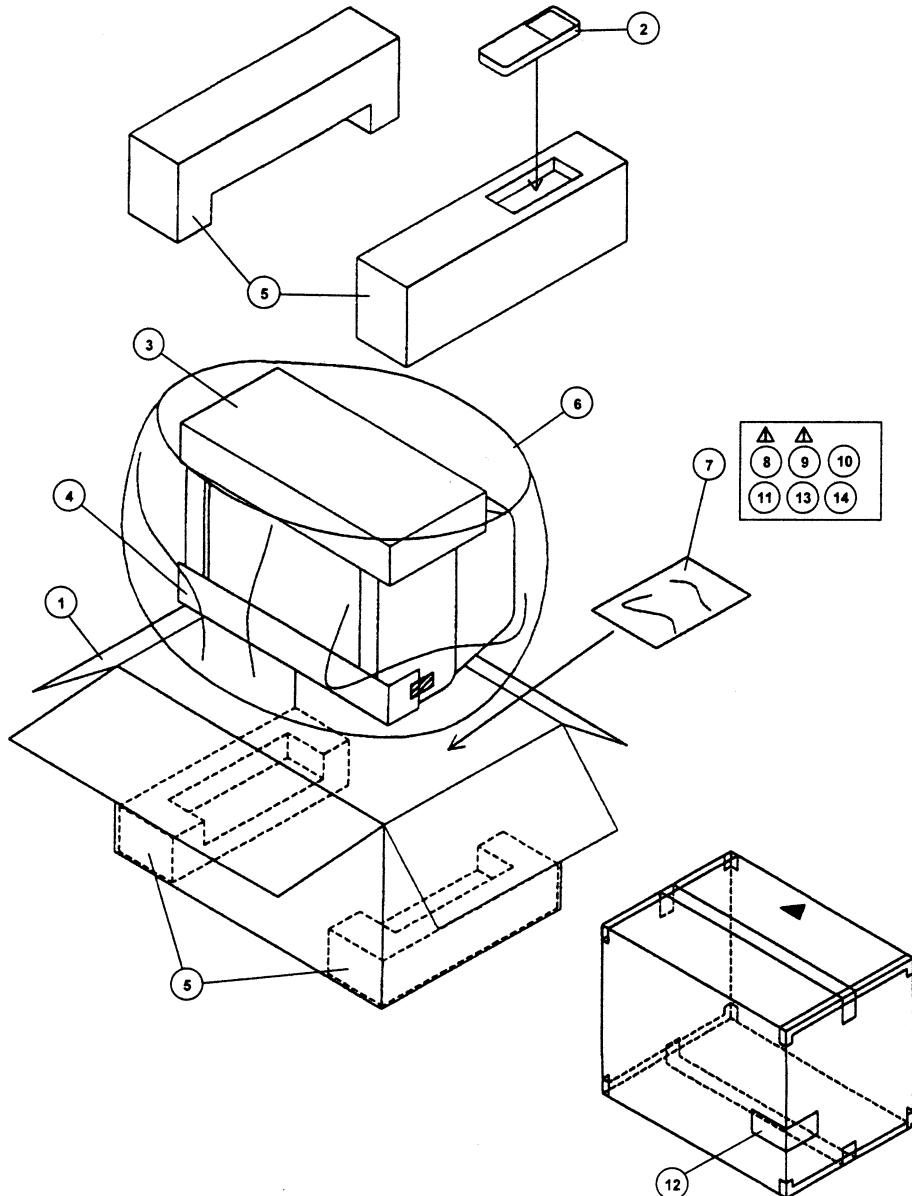
Q0101	2SA1162/YG/-X	SI. TRANSISTOR	*
Q0102	2SC2712/YG/-X	SI. TRANSISTOR	*
Q0103	2SA1162/YG/-X	SI. TRANSISTOR	*
Q0104	2SC2712/YG/-X	SI. TRANSISTOR	*
Q0105	2SA1162/YG/-X	SI. TRANSISTOR	*
Q0106-07	2SC2712/YG/-X	SI. TRANSISTOR	*
Q0108	2SA1162/YG/-X	SI. TRANSISTOR	*
Q0109-10	2SC2712/YG/-X	SI. TRANSISTOR	*
Q0111	2SA1162/YG/-X	SI. TRANSISTOR	*
Q0121	2SA1162/YG/-X	SI. TRANSISTOR	*
Q0122	2SC2712/YG/-X	SI. TRANSISTOR	*
Q0123	2SA1162/YG/-X	SI. TRANSISTOR	*
Q0124	2SC2712/YG/-X	SI. TRANSISTOR	*
Q0141	2SA1162/YG/-X	SI. TRANSISTOR	*
Q0142	2SC2712/YG/-X	SI. TRANSISTOR	*
Q0143	2SA1162/YG/-X	SI. TRANSISTOR	*
Q0144	2SC2712/YG/-X	SI. TRANSISTOR	*
Q0151-52	2SC2712/YG/-X	SI. TRANSISTOR	*
Q0153	2SA1162/YG/-X	SI. TRANSISTOR	*
Q0154	2SC2712/YG/-X	SI. TRANSISTOR	*
Q0155	2SA1162/YG/-X	SI. TRANSISTOR	*
Q0402	2SC2712/YG/-X	SI. TRANSISTOR	*
Q0403-05	2SA1162/YG/-X	SI. TRANSISTOR	*
Q0411	2SA1162/YG/-X	SI. TRANSISTOR	*
Q0412-15	2SC2712/YG/-X	SI. TRANSISTOR	*
Q0431	2SA1162/YG/-X	SI. TRANSISTOR	*
Q0432-35	2SC2712/YG/-X	SI. TRANSISTOR	*
Q0451	2SA1162/YG/-X	SI. TRANSISTOR	*
Q0452-55	2SC2712/YG/-X	SI. TRANSISTOR	*

△ Symbol No. Part No. Part Name Description Local
TRANSISTOR

Q0471	2SA1162/YG/-X	SI. TRANSISTOR	*
Q0472-74	2SC2712/YG/-X	SI. TRANSISTOR	*
Q0501	2SC2712/YG/-X	SI. TRANSISTOR	*
Q0601	2SC2712/YG/-X	SI. TRANSISTOR	*
Q0702	2SC2712/YG/-X	SI. TRANSISTOR	

AV-32WZ4EP / AV-28WZ4EP / AV-28WZ4EPS

PACKING



PACKING PARTS LIST

AV-32WZ4EP

△ Ref. No.	Part No.	Part Name	Description	Local
1	AEM1002-C43-E	PACKING CASE		*
2	RM-C793-1E	REMOCON UNIT		*
3	AEM3022-003-E	CUSHION SHEET		*
4	AEM3022-004-E	CUSHION SHEET		*
5	CP11549-B0B-E	PACKING CUSHION	4pcs in 1set	*
6	AEM1004-A07-E	SET COVER		*
7	AEM3021-001-E	POLY BAG		*
8	LCT0341-001A-U	INST BOOK	For ENG/GER/FRA/NED/ITA/ESP	*
△ 9	LCT0342-001A-U	INST BOOK	For FIN/NOR/DEN/SWE/POR	*
10	AEM1043-001-E	X-RAY CARD		*
11	2832WZ4EPS-HSAE	S. DIAGRAM	ONLY ITALY(SERVICE)	*
12	AEM1038-085-E	EURO LABEL		*
13	BT-20066A-E	ADDRESS CARD	(1295)	*
14	BT-54013-1E	WARRANTY CARD		*

AV-28WZ4EP

△ Ref. No.	Part No.	Part Name	Description	Local
1	AEM1002-067-E	PACKING CASE		*
2	RM-C793-1E	REMOCON UNIT		*
3	CP40193-009-E	CUSHION SHEET		*
4	CP40193-010-E	CUSHION SHEET		*
5	LC10522-002A-U	PACKING CUSHION	4pcs in 1set	*
6	AEM1004-A06-E	SET COVER		*
7	AEM3021-001-E	POLY BAG		*
8	LCT0341-001A-U	INST BOOK	For ENG/GER/FRA/NED/ITA/ESP	*
△ 9	LCT0342-001A-U	INST BOOK	For FIN/NOR/DEN/SWE/POR	*
10	AEM1042-001-E	X-RAY CARD		*
11	2832WZ4EPS-HSAE	S. DIAGRAM	ONLY ITALY(SERVICE)	*
12	AEM1039-040-E	EURO LABEL		*
13	BT-20066A-E	ADDRESS CARD	(1295)	*
14	BT-54013-1E	WARRANTY CARD		*

AV-28WZ4EPS

△ Ref. No.	Part No.	Part Name	Description	Local
1	AEM1002-067-E	PACKING CASE		*
2	RM-C793-1E	REMOCON UNIT		*
3	CP40193-009-E	CUSHION SHEET		*
4	CP40193-010-E	CUSHION SHEET		*
5	LC10522-002A-U	PACKING CUSHION	4pcs in 1set	*
6	AEM1004-A06-E	SET COVER		*
7	AEM3021-001-E	POLY BAG		*
8	LCT0341-001A-U	INST BOOK	For ENG/GER/FRA/NED/ITA/ESP	*
△ 9	LCT0342-001A-U	INST BOOK	For FIN/NOR/DEN/SWE/POR	*
10	AEM1042-001-E	X-RAY CARD		*
11	2832WZ4EPS-HSAE	S. DIAGRAM	ONLY ITALY(SERVICE)	*
12	AEM1039-040-E	EURO LABEL		*
13	BT-20066A-E	ADDRESS CARD	(1295)	*
14	BT-54013-1E	WARRANTY CARD		*

AV-32WZ4EP AV-28WZ4EP AV-28WZ4EPS STANDARD CIRCUIT DIAGRAM

■ NOTE ON USING CIRCUIT DIAGRAMS

1. SAFETY

The components identified by the  symbol and shading are critical for safety. For continued safety replace safety critical components only with manufacturers recommended parts.

2. SPECIFIED VOLTAGE AND WAVEFORM VALUES

The voltage and waveform values have been measured under the following conditions.

- (1) Input signal :PAL Colour bar signal
- (2) Setting positions of each knob/button and variable resistor :Original setting position when shipped
- (3) Internal resistance of tester :DC 20kΩ/V
- (4) Oscilloscope sweeping time :H \Rightarrow 20μS/div
:V \Rightarrow 5mS/div
:Others \Rightarrow Sweeping time is specified
- (5) Voltage values :All DC voltage values
* Since the voltage values of signal circuit vary to some extent according to adjustments, use them as reference values.

3. INDICATION OF PARTS SYMBOL [EXAMPLE]

• In the PW board :R1209→R209

4. INDICATIONS ON THE CIRCUIT DIAGRAM

(1) Resistors

• Resistance value

- No unit :[Ω]
- K :[KΩ]
- M :[MΩ]

• Rated allowable power

- No indication :1/10[W]
- Others :As specified

• Type

- No indication :Carbon resistor
- OMR :Oxide metal film resistor
- MFR :Metal film resistor
- MPR :Metal plate resistor
- UNFR :Uninflammable resistor
- FR :Fusible resistor

* Composition resistor 1/2 [W] is specified as 1/2S or Comp.

(2) Capacitors

• Capacitance value

- 1 or higher :[pF]
- less than 1 :[μF]

• Withstand voltage

- No indication :DC50[V]

AC indicated :AC withstand voltage [V]

Others :DC withstand voltage [V]

• Electrolytic Capacitors

47/50[Example]:Capacitance value [μF]/withstand voltage[V]

AV-32WZ4EP
AV-28WZ4EP
AV-28WZ4EPS

● Type	
No indication	:Ceramic capacitor
MY	:Mylar capacitor
MM	:Metalized mylar capacitor
PP	:Polypropylene capacitor
MPP	:Metalized polypropylene capacitor
MF	:Metalized film capacitor
TF	:Thin film capacitor
BP	:Bipolar electrolytic capacitor
TAN	:Tantalum capacitor
(3) Coils	
No unit	:[μH]
Others	:As specified
(4) Power Supply	
	:B1
	:B2
	:9V
	:5V
*Respective voltage values are indicated	
(5) Test point	
	:Test point
	:Only test point display
(6) Connecting method	
	:Connector
	:Wrapping or soldering
	:Receptacle
(7) Ground symbol	
	:LIVE side ground
	:ISOLATED(NEUTRAL) side ground
	:EARTH ground
	:DIGITAL ground

5. NOTE FOR REPAIRING SERVICE

This model's power circuit is partly different in the GND. The difference of the GND is shown by the LIVE : (⊥) side GND and the ISOLATED(NEUTRAL) : (↓) side GND. Therefore, care must be taken for the following points.

(1) Do not touch the LIVE side GND or the LIVE side GND and the ISOLATED(NEUTRAL) side GND simultaneously. If the above caution is not respected, an electric shock may be caused. Therefore, make sure that the power cord is surely removed from the receptacle when, for example, the chassis is pulled out.

(2) Do not short between the LIVE side GND and the ISOLATED(NEUTRAL) side GND or never measure with a measuring apparatus (oscilloscope, etc.) the LIVE side GND and ISOLATED(NEUTRAL) side GND at the same time. If the above precaution is not respected, a fuse or any parts will be broken.

◇ Since the circuit diagram is a standard one, the circuit and circuit constants may be subject to change for improvement without any notice.

AV-32WZ4EP
AV-28WZ4EP
AV-28WZ4EPS

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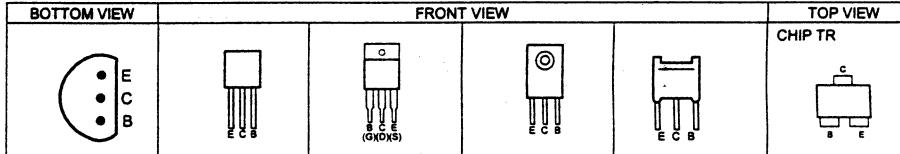
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PATTERN DIAGRAMS

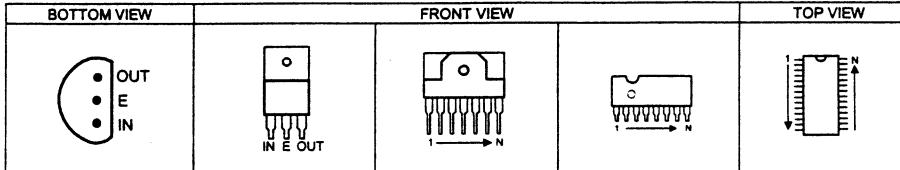
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SEMICONDUCTOR SHAPES

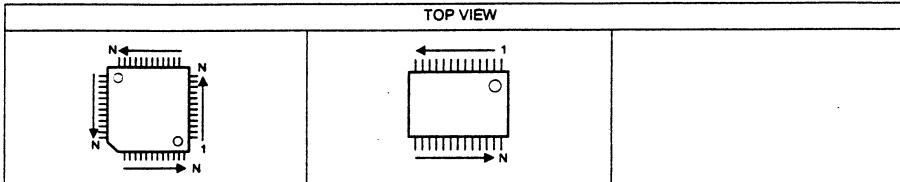
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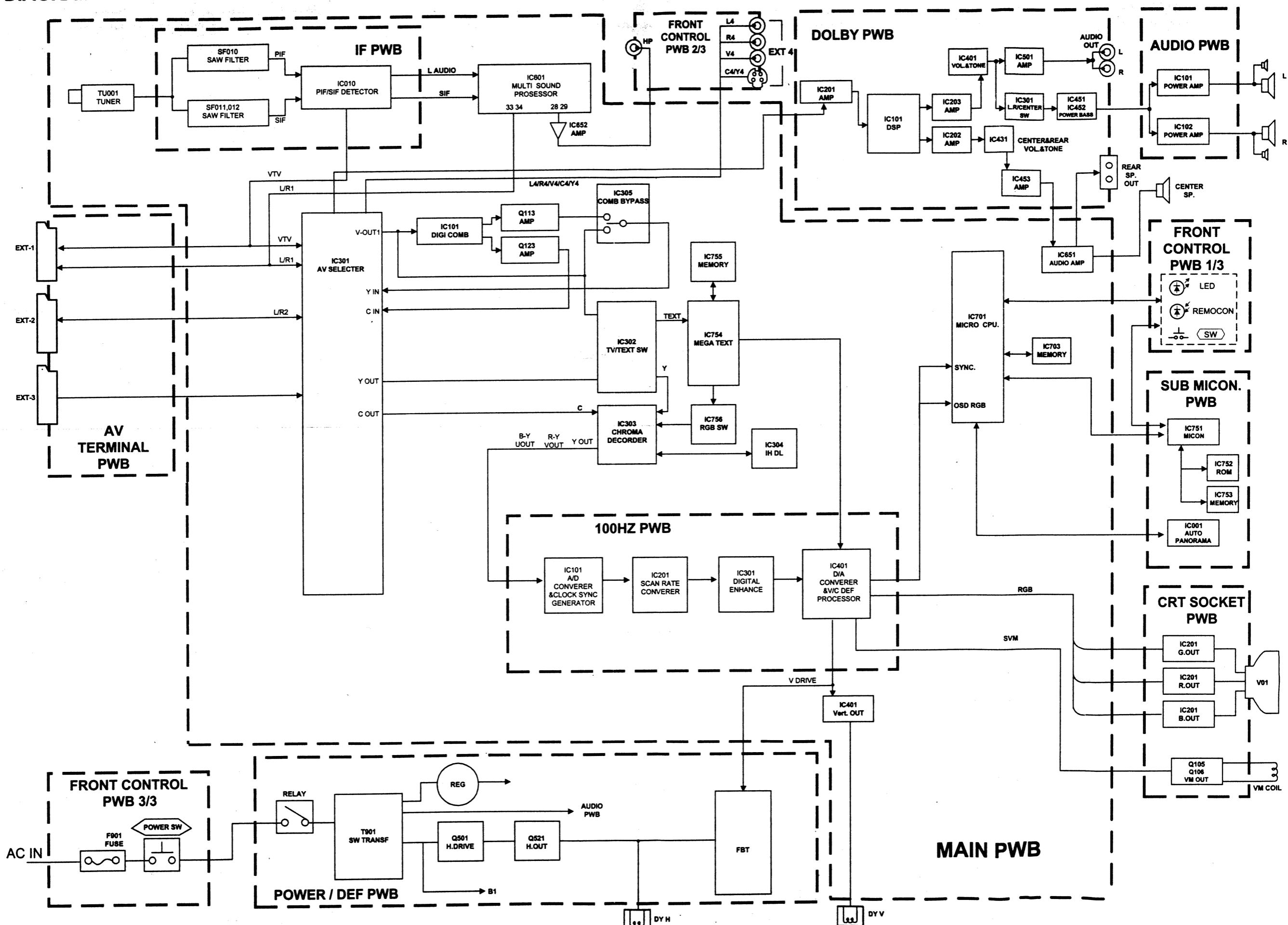
IC



CHIP IC



BLOCK DIAGRAM



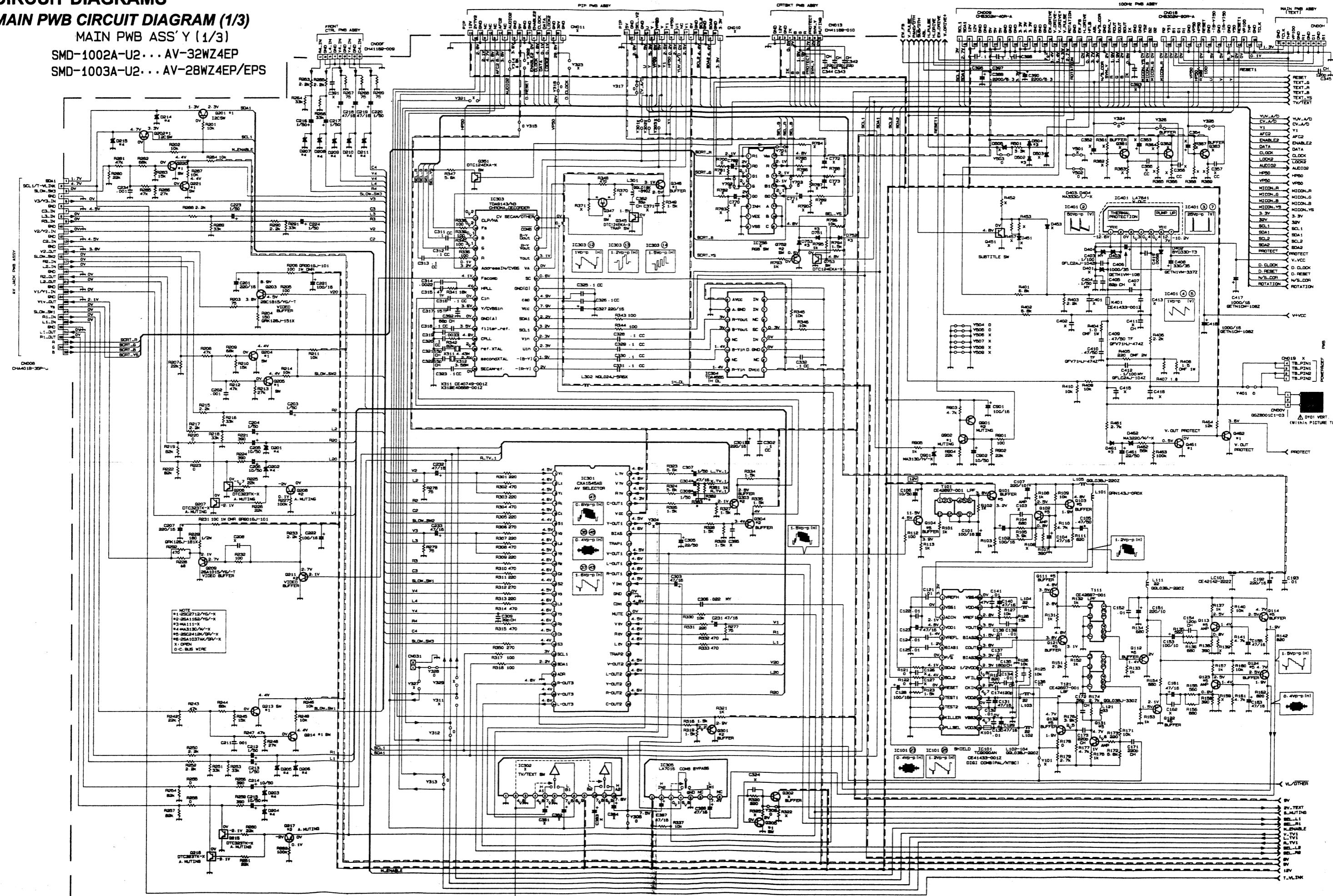
CIRCUIT DIAGRAMS

MAIN PWB CIRCUIT DIAGRAM (1/3)

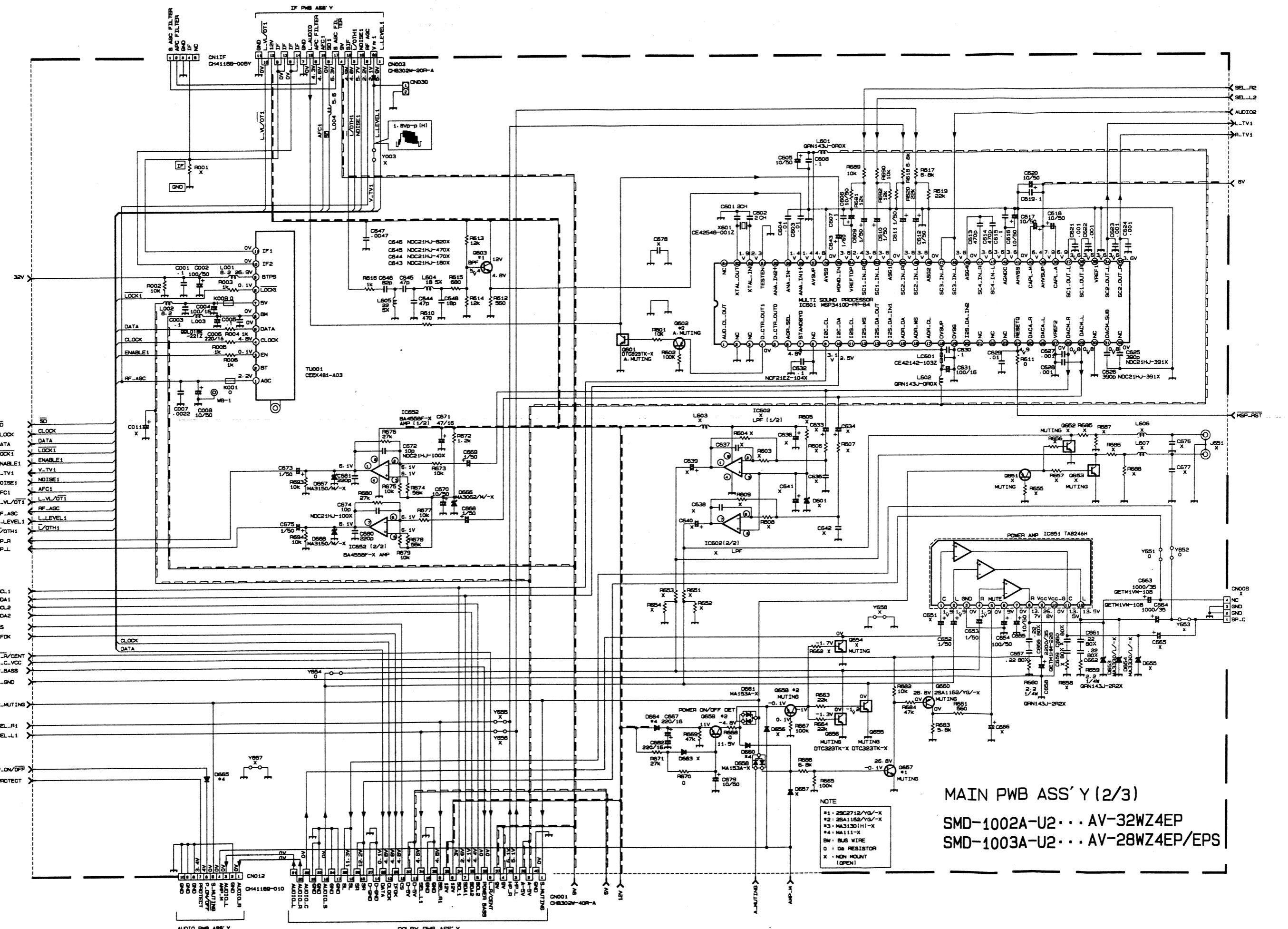
MAIN PWB ASS'Y (1/3)

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SMD-1003A-U2 . . . AV-28WZ4EP/EPS



MAIN PWB CIRCUIT DIAGRAM (2/3)

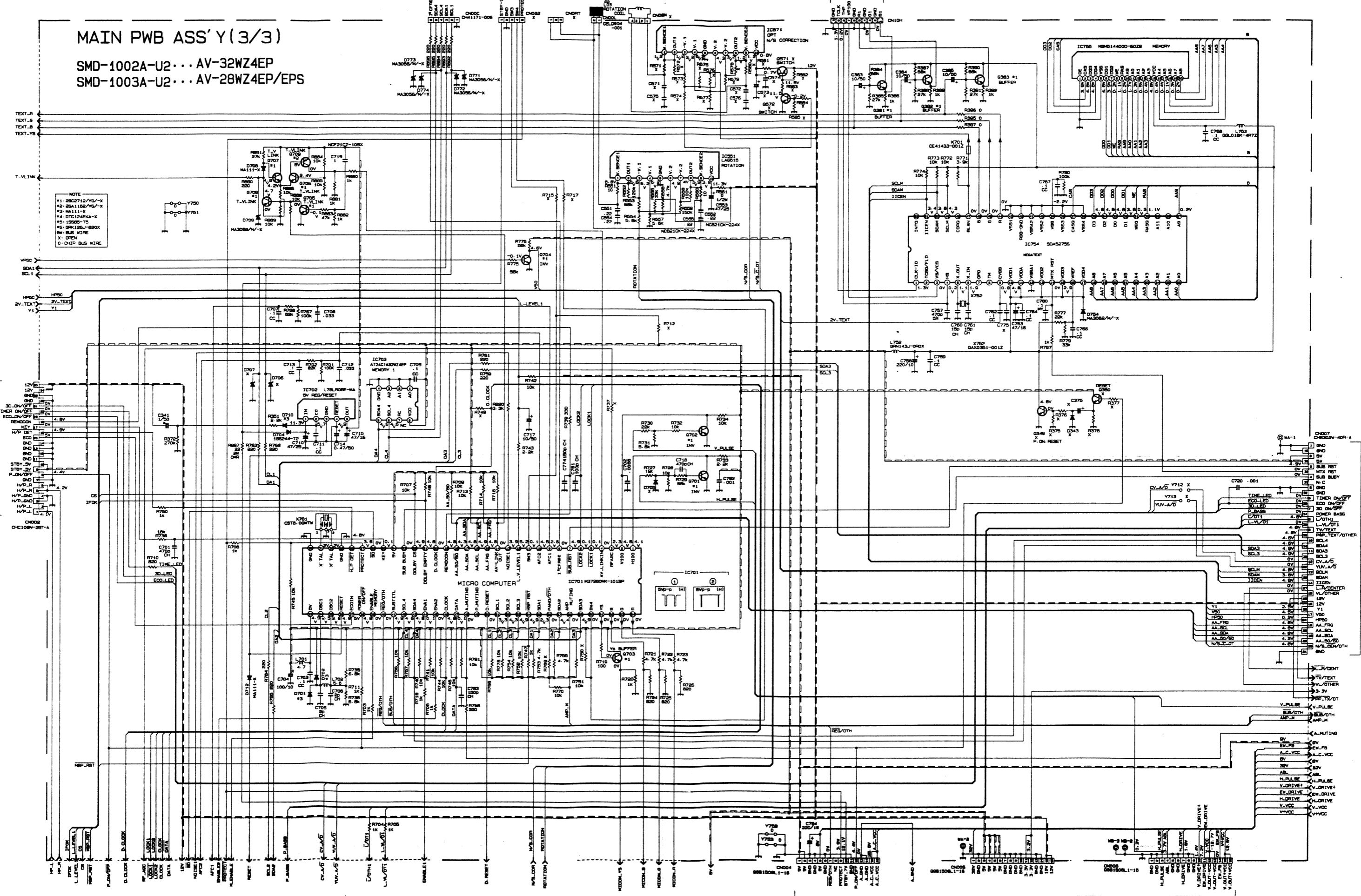


MAIN PWB ASS'Y (2/3)

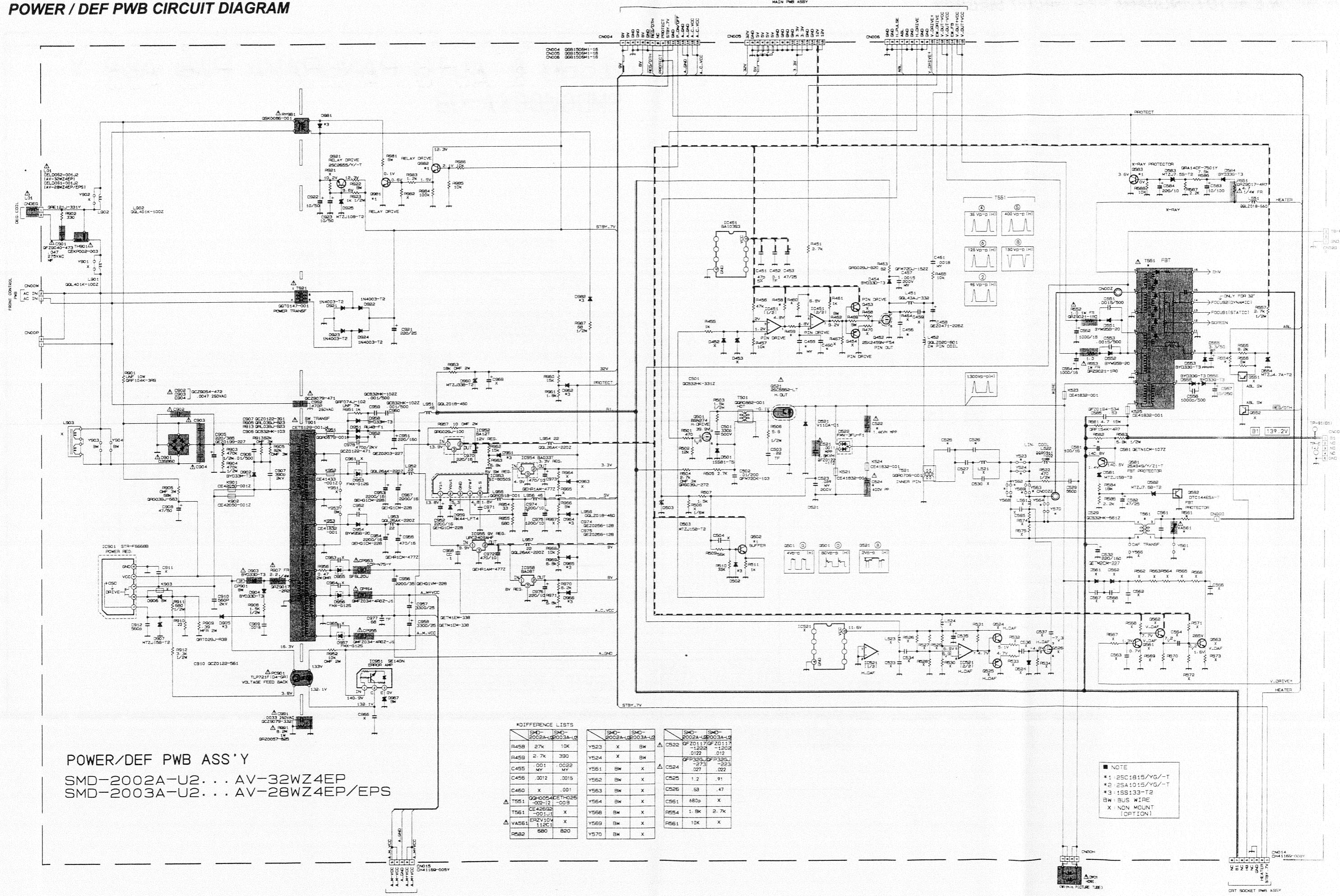
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SMD-1003A-U2 . . . AV-28WZ4EP/EPS |

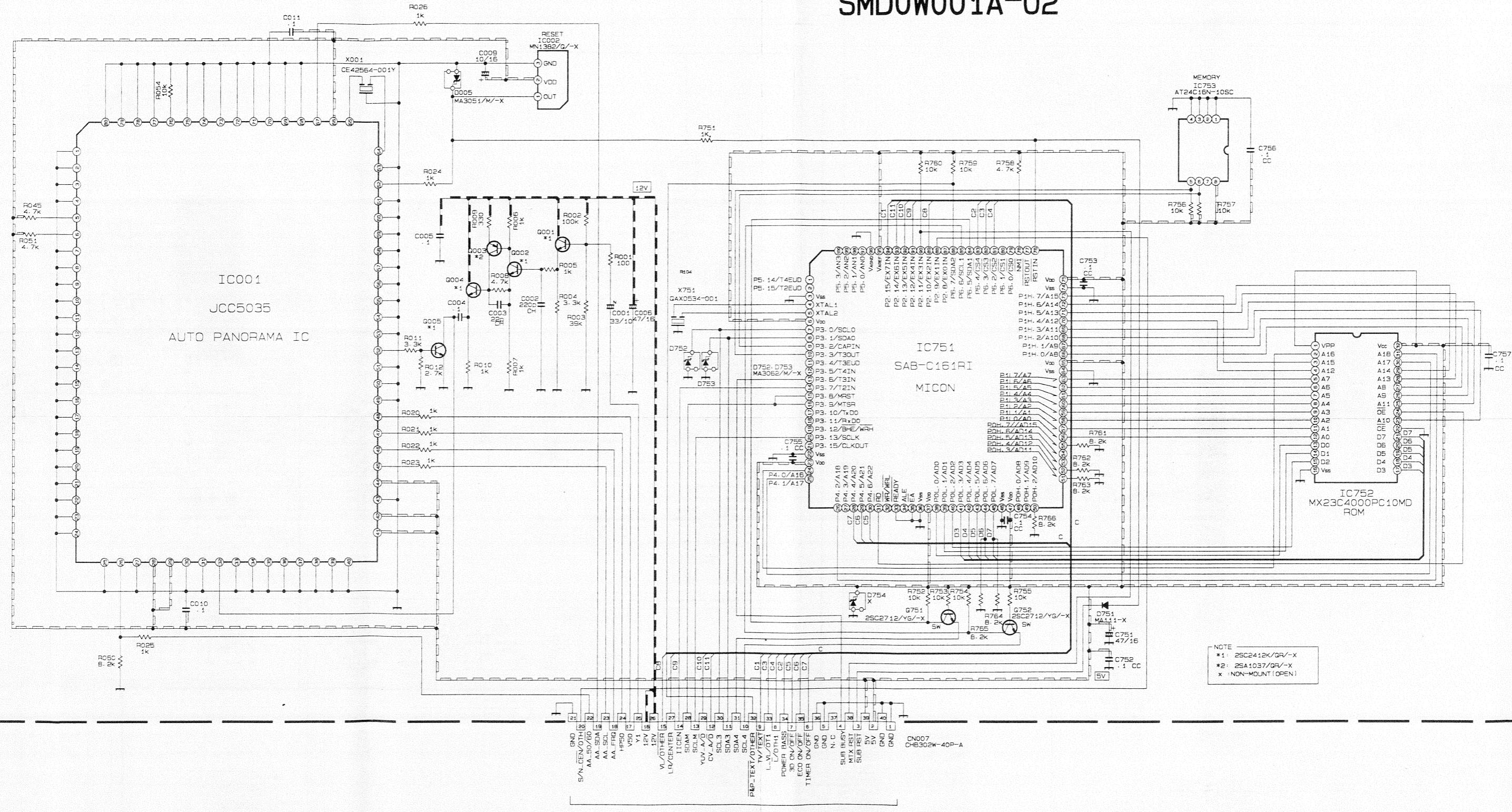
MAIN PWB CIRCUIT DIAGRAM (3/3)



POWER / DEF PWB CIRCUIT DIAGRAM

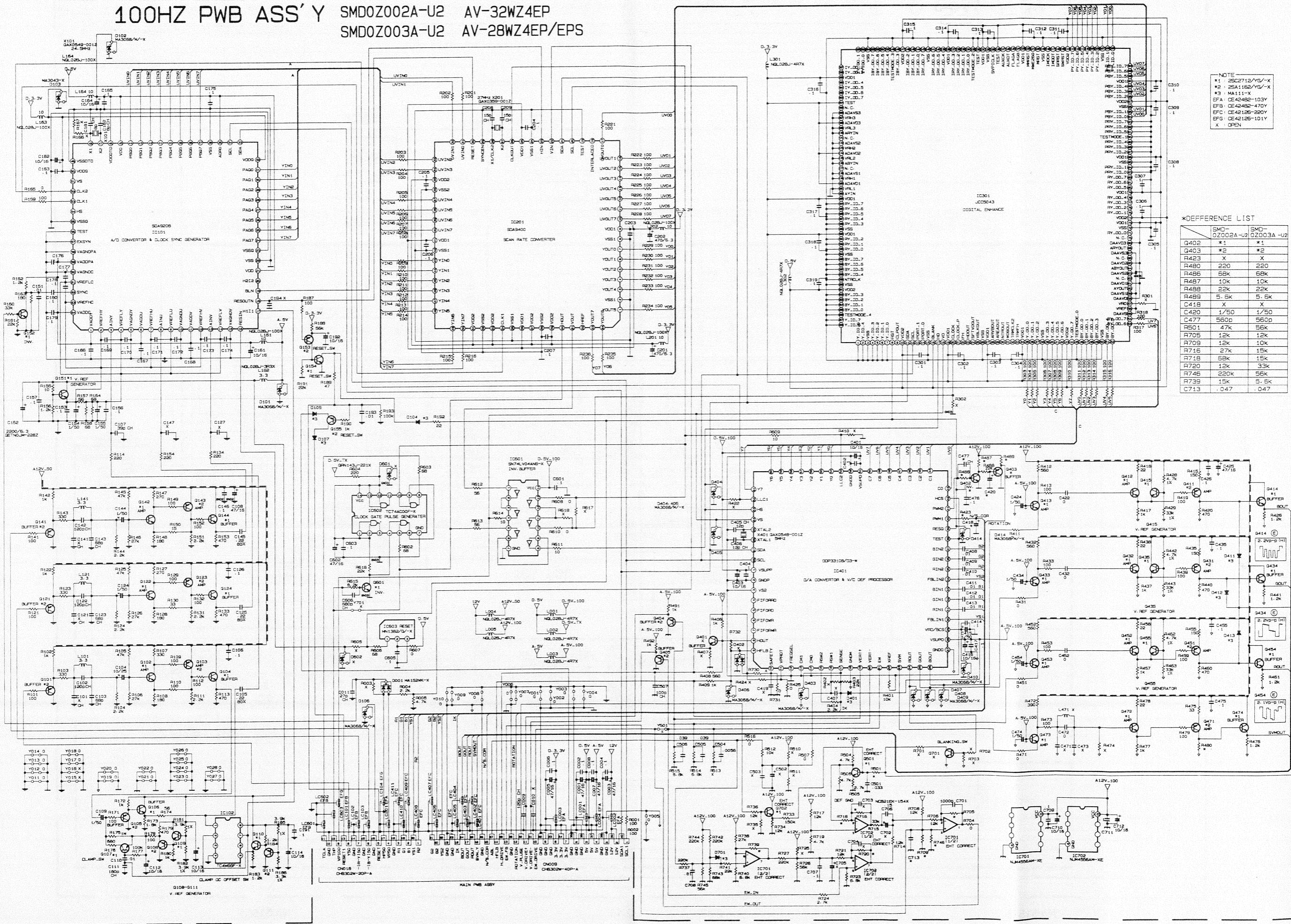


SUB MICON & AUTO PANORAMA PWB ASS'Y
SMD0W001A-U2



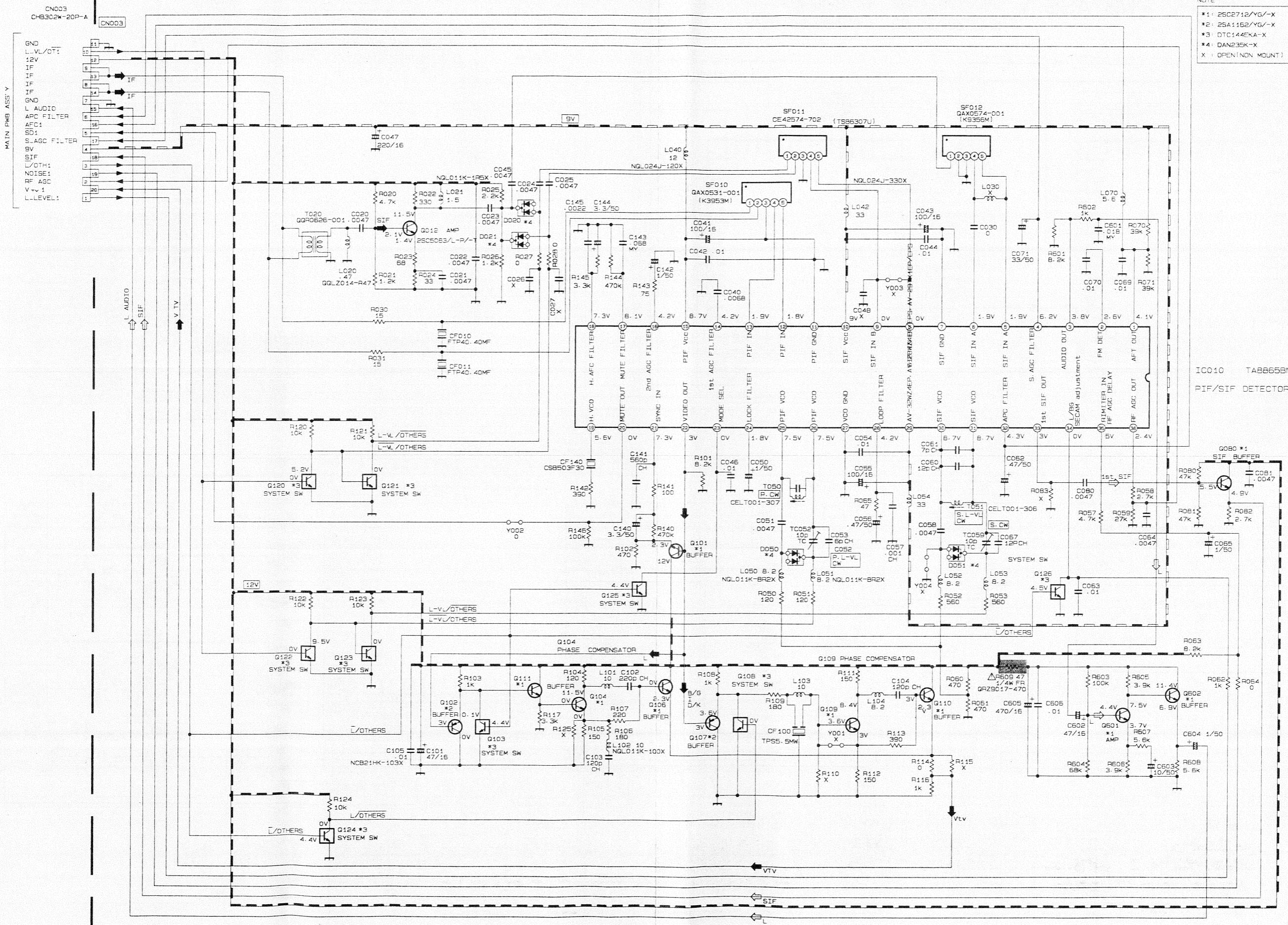
100Hz PWB CIRCUIT DIAGRAM

100HZ PWB ASS' Y SMD0Z002A-U2 AV-32WZ4EP
SMD0Z003A-U2 AV-28WZ4EP/EPS



IF PWB CIRCUIT DIAGRAM

IF PWB ASS' Y SMD0F001A-U2

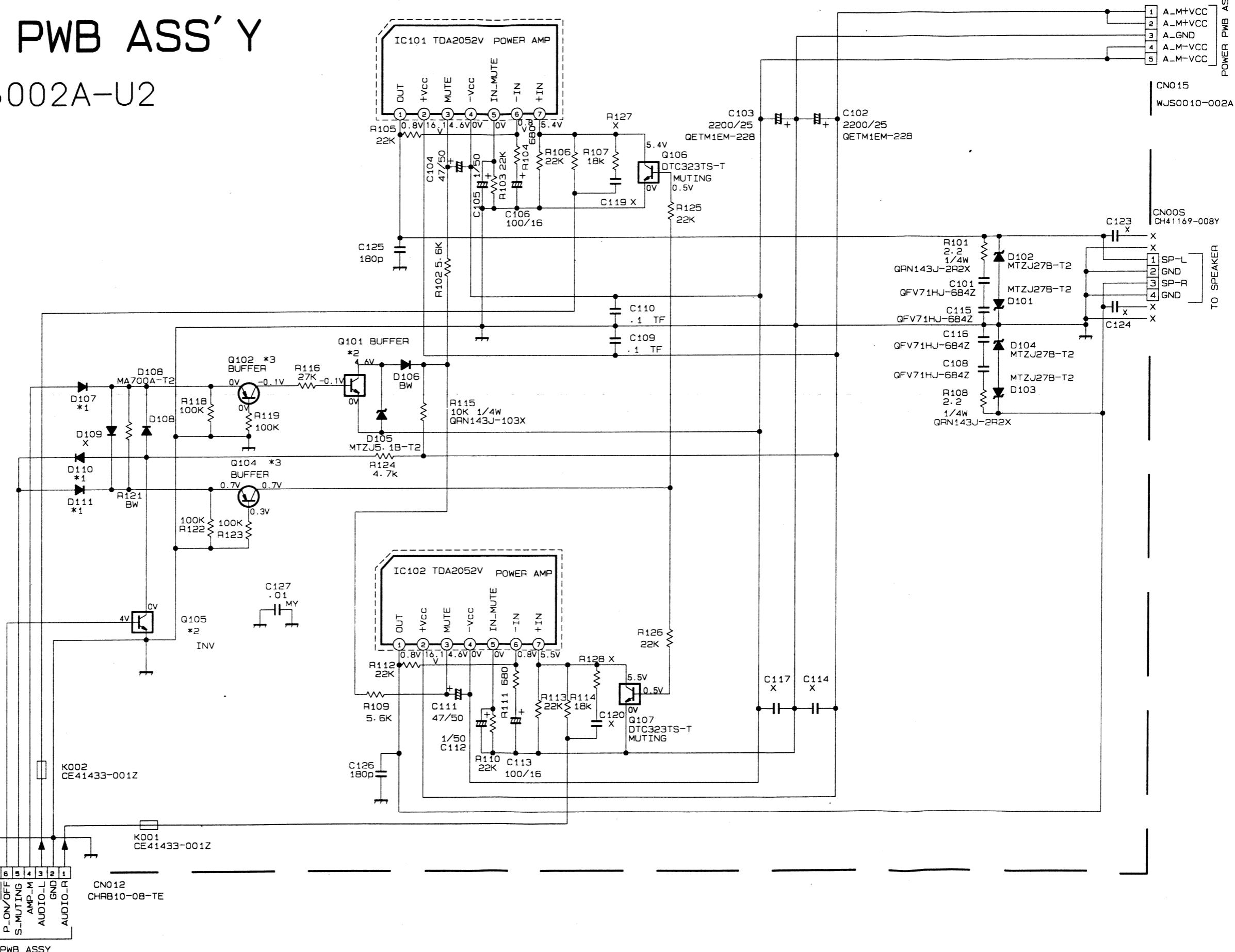


AUDIO PWB CIRCUIT DIAGRAM

AUDIO PWB ASS'Y

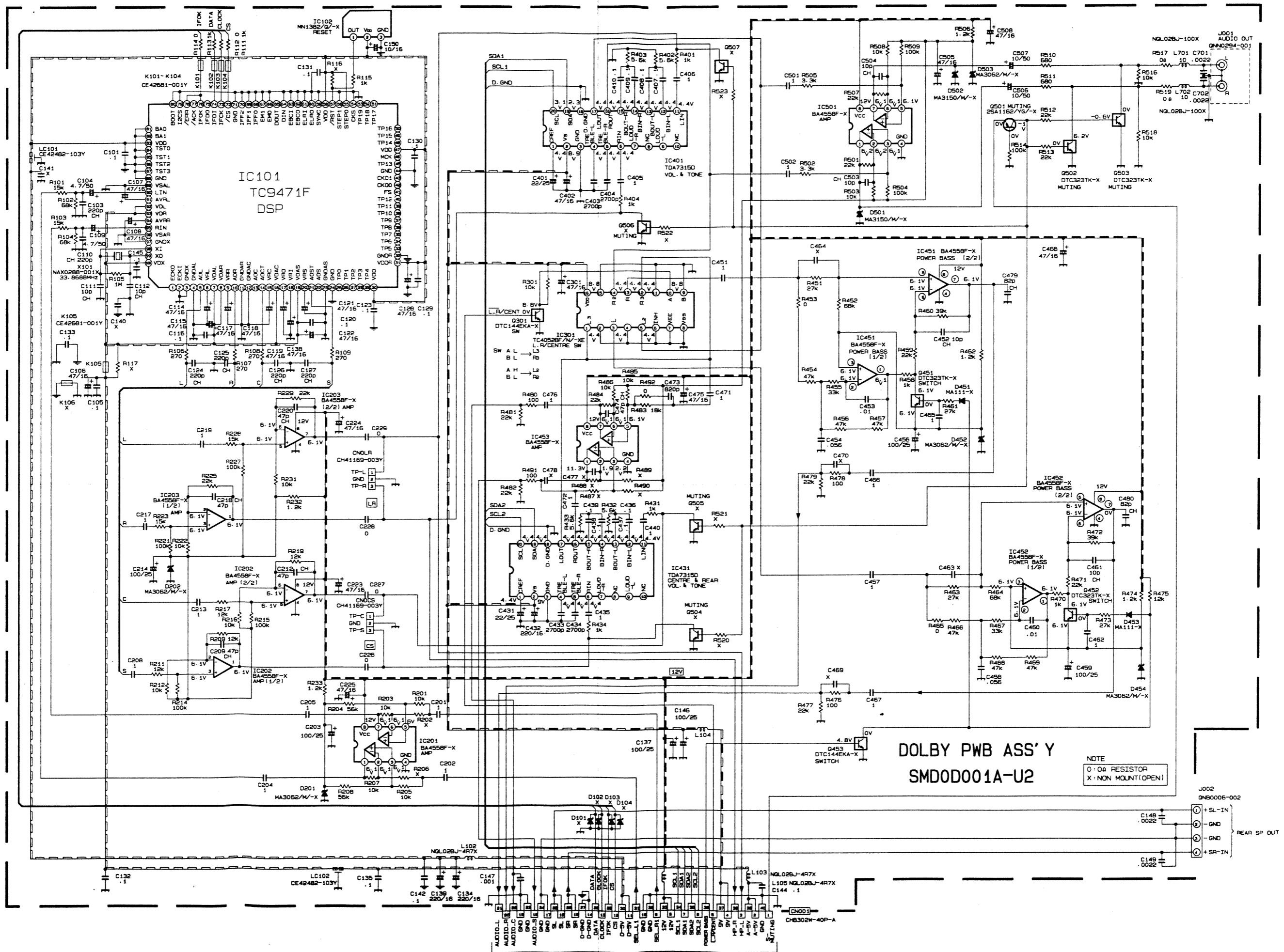
SMD-6002A-U2

NOTE



DOLBY PWB CIRCUIT DIAGRAM

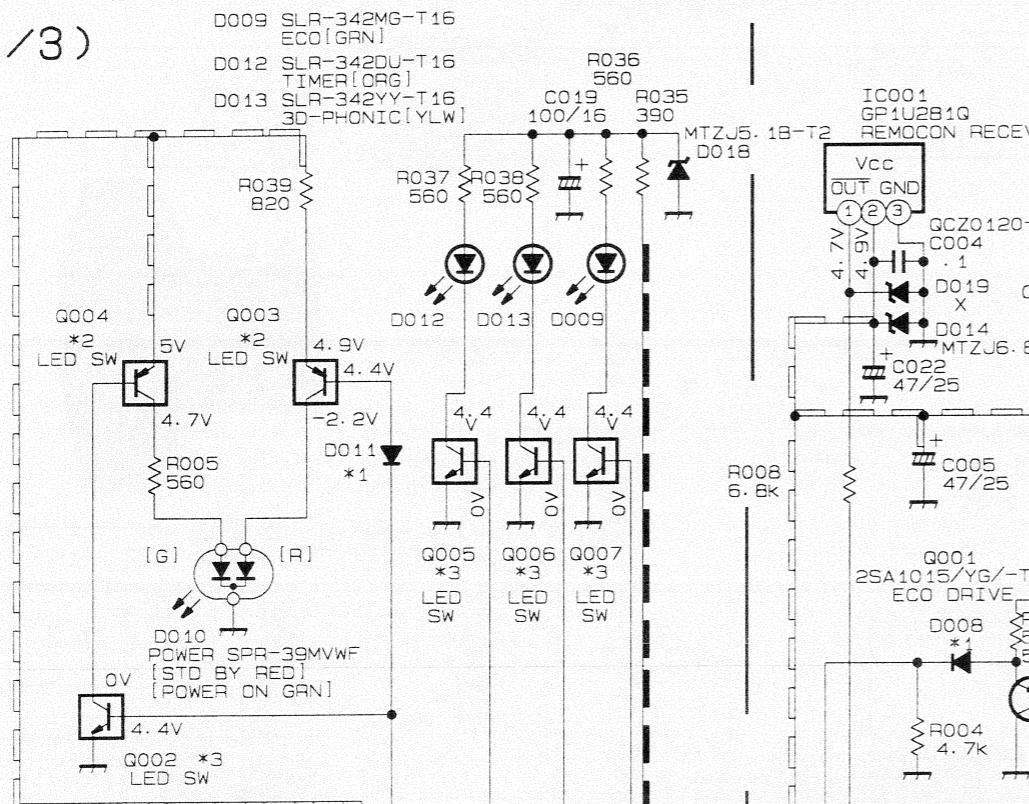
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AV-28WZ4EP
AV-28WZ4EPS



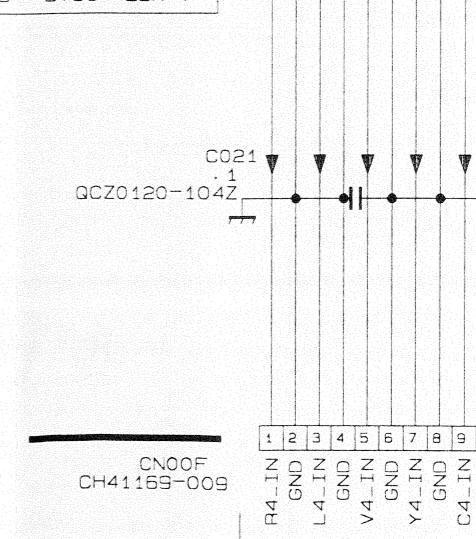
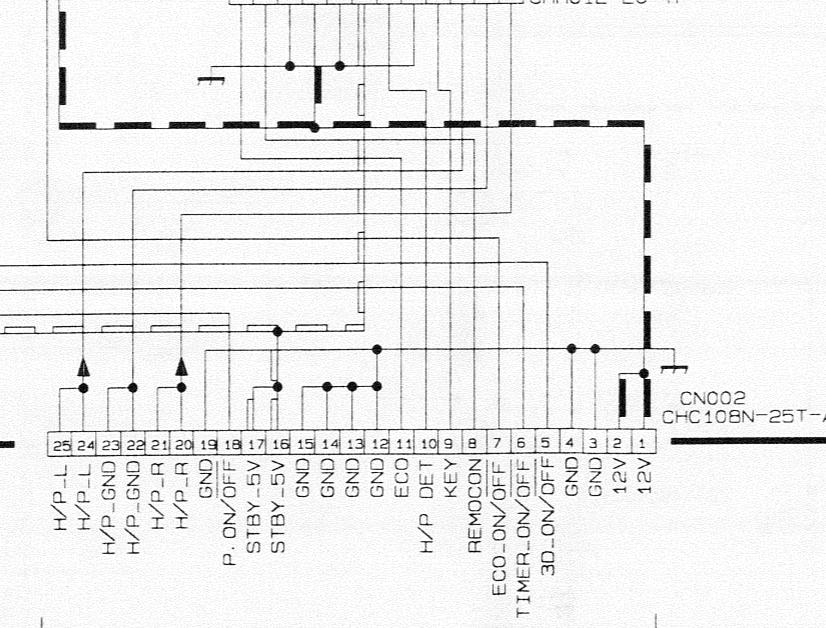
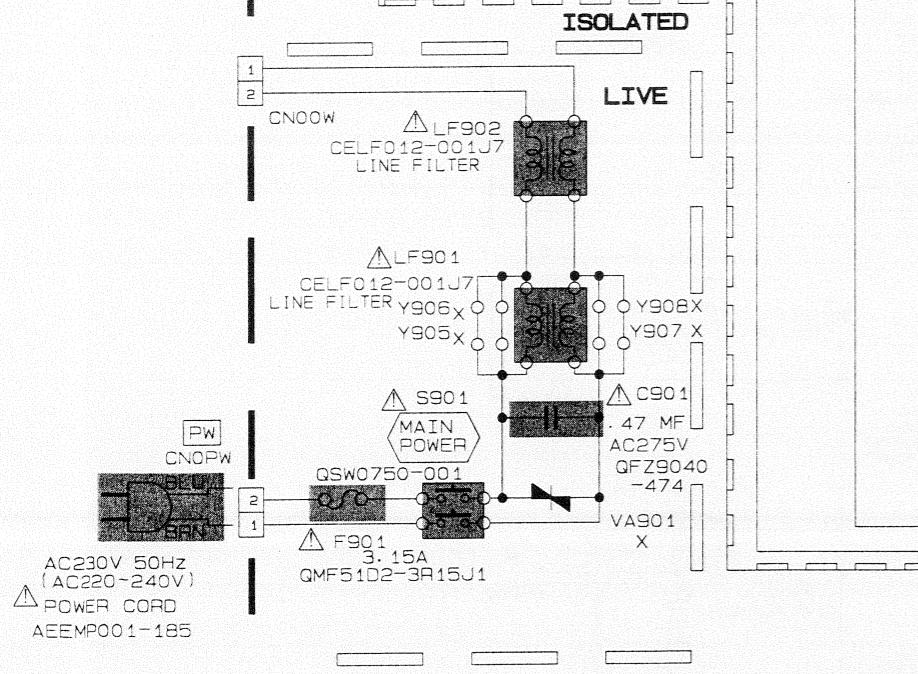
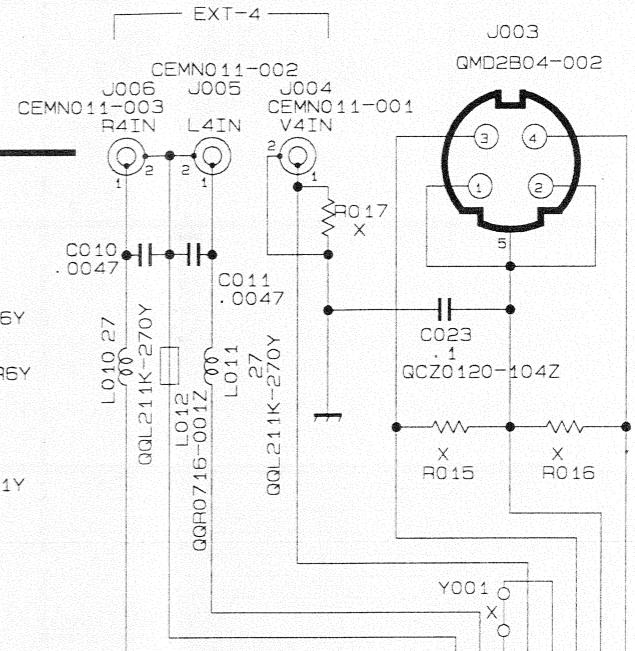
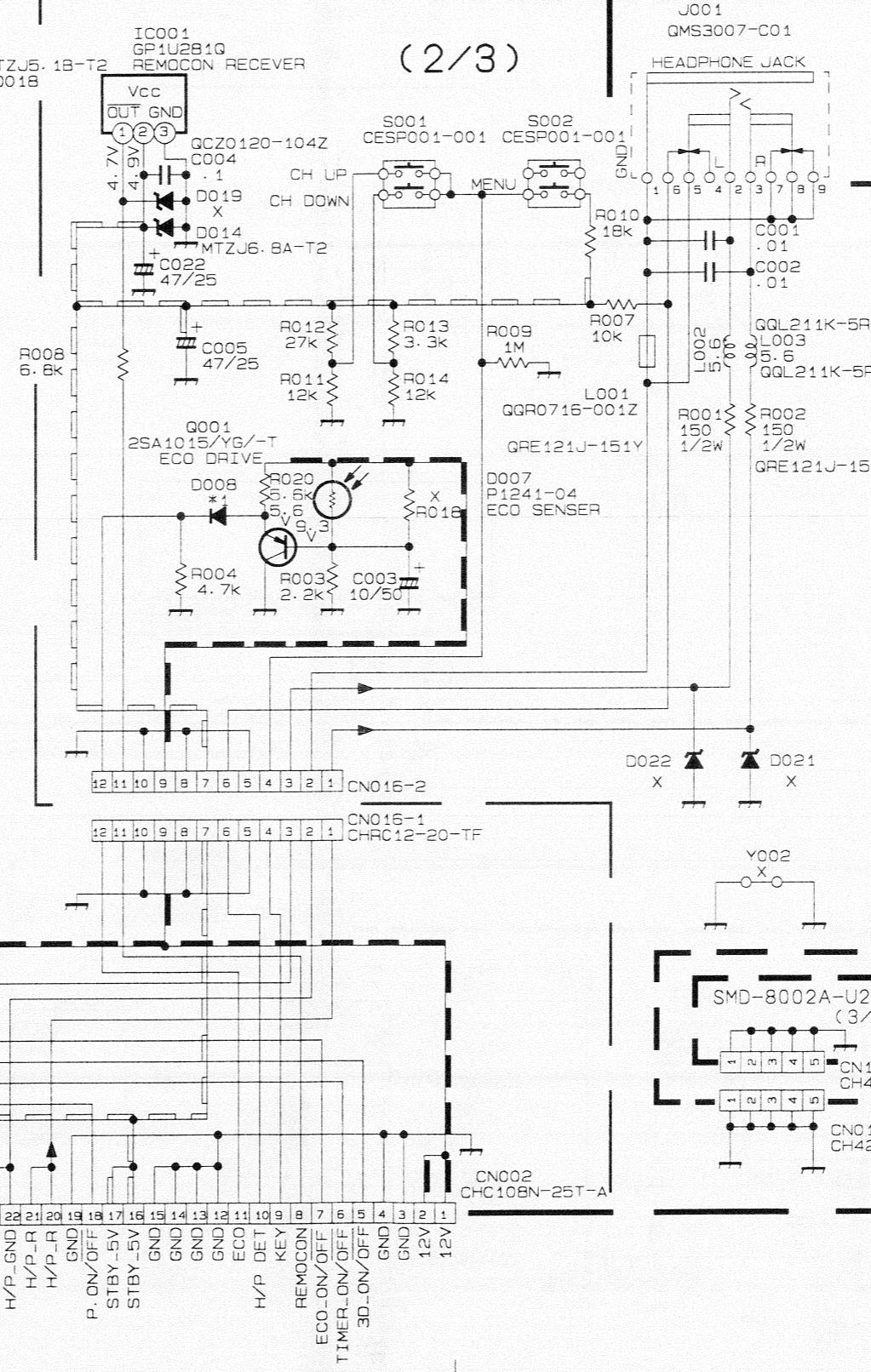
FRONT CONTROL PWB CIRCUIT DIAGRAM

FRONT CONTROL PWB ASS'Y
SMD-8002A-U2

(1/3)



(2/3)



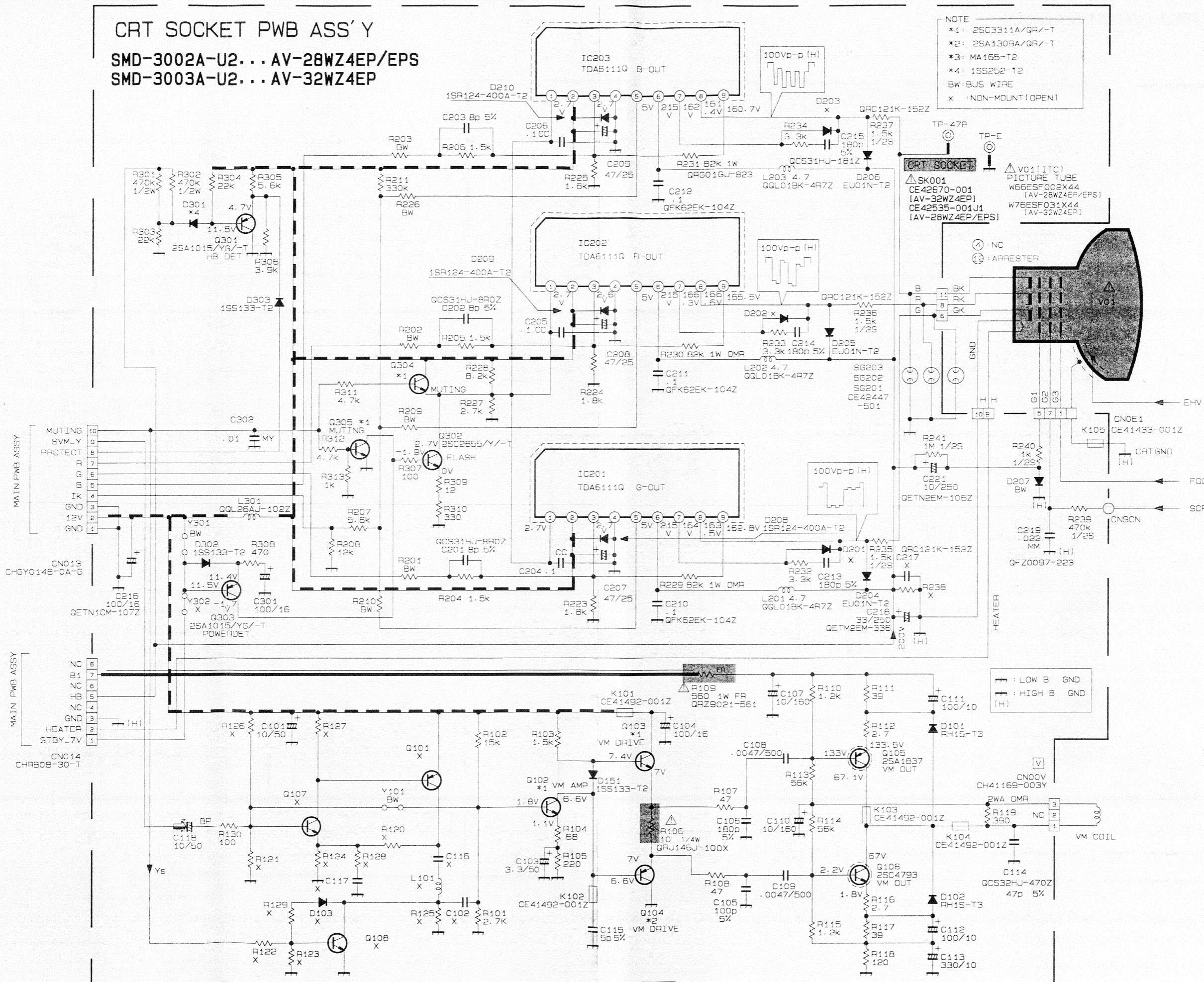
CRT SOCKET PWB CIRCUIT DIAGRAM

AV-32WZ4EP
AV-28WZ4EP
AV-28WZ4EPS

AV-32WZ4EP
AV-28WZ4EP
AV-28WZ4EPS

CRT SOCKET PWB ASS'Y

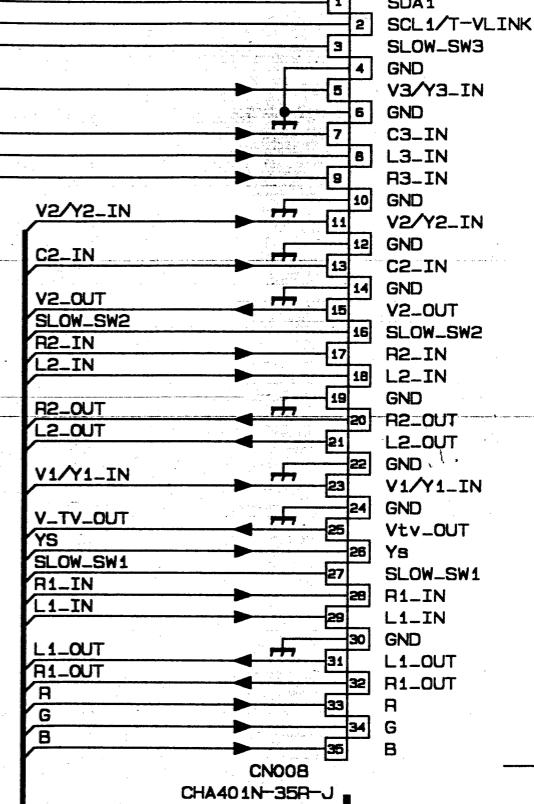
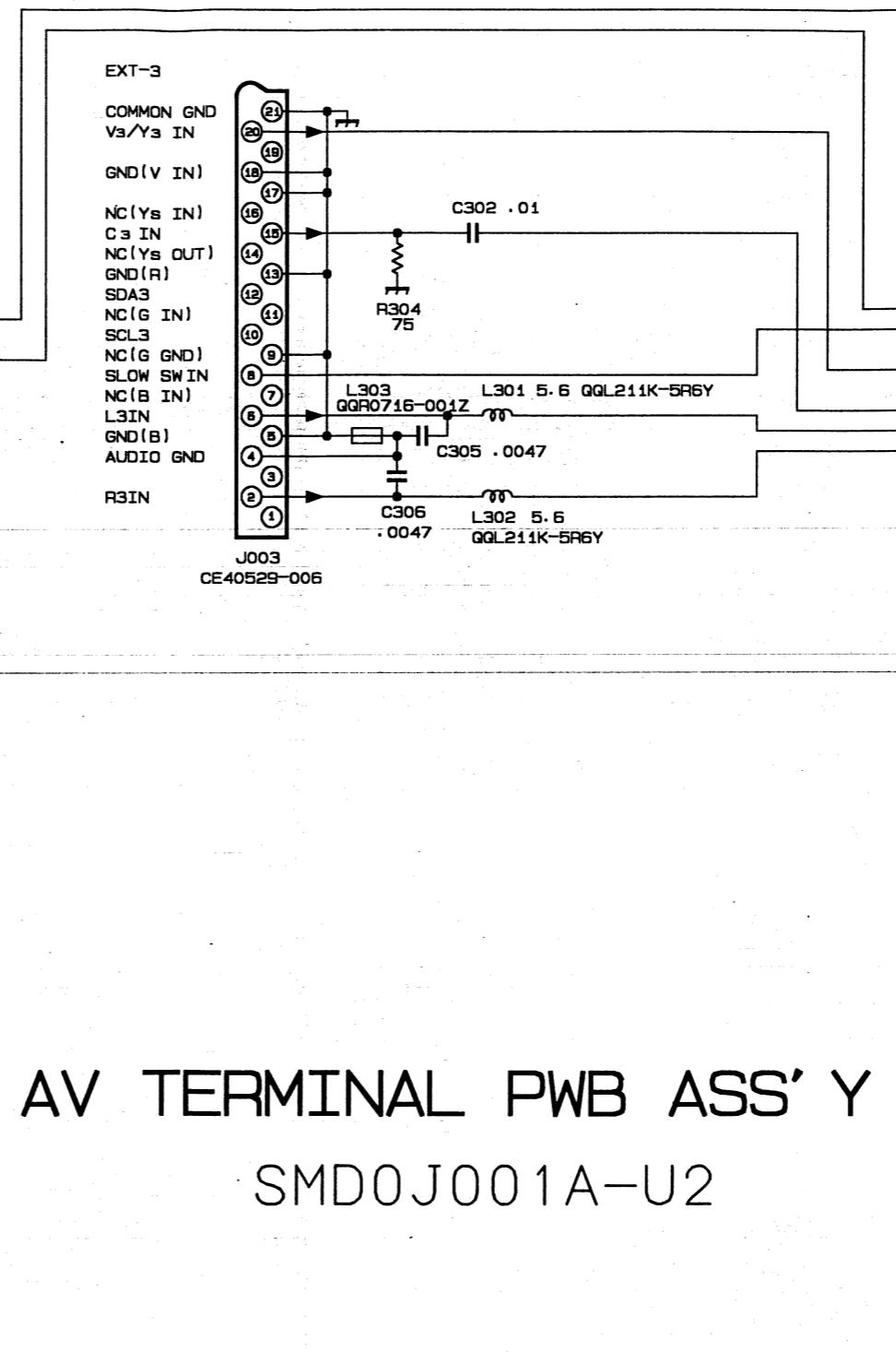
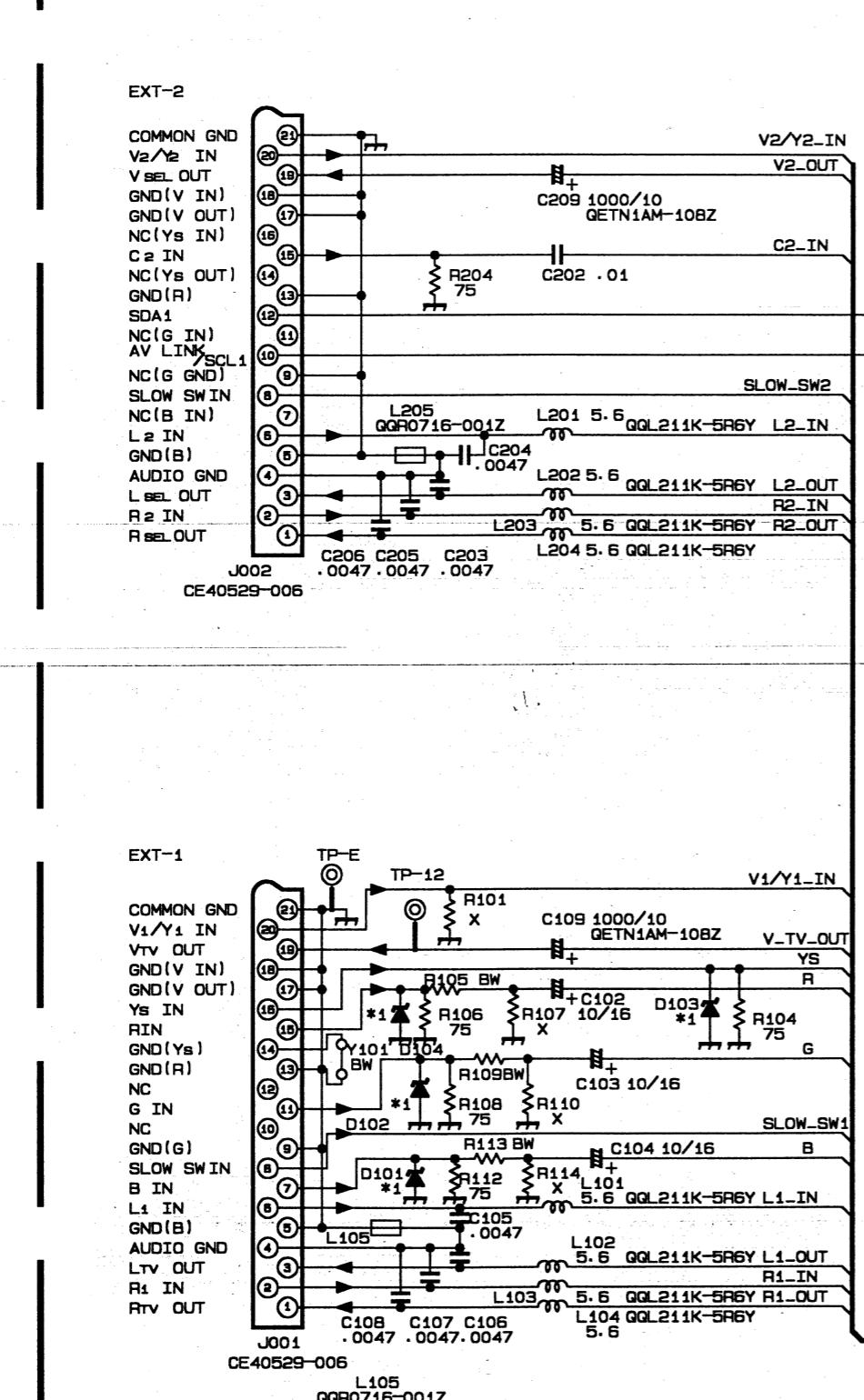
SMD-3002A-U2... AV-28WZ4EP/EPS
SMD-3003A-U2... AV-32WZ4EP



AV-32WZ4EP
AV-28WZ4EP
AV-28WZ4EPS

AV-32WZ4EP
AV-28WZ4EP
AV-28WZ4EPS

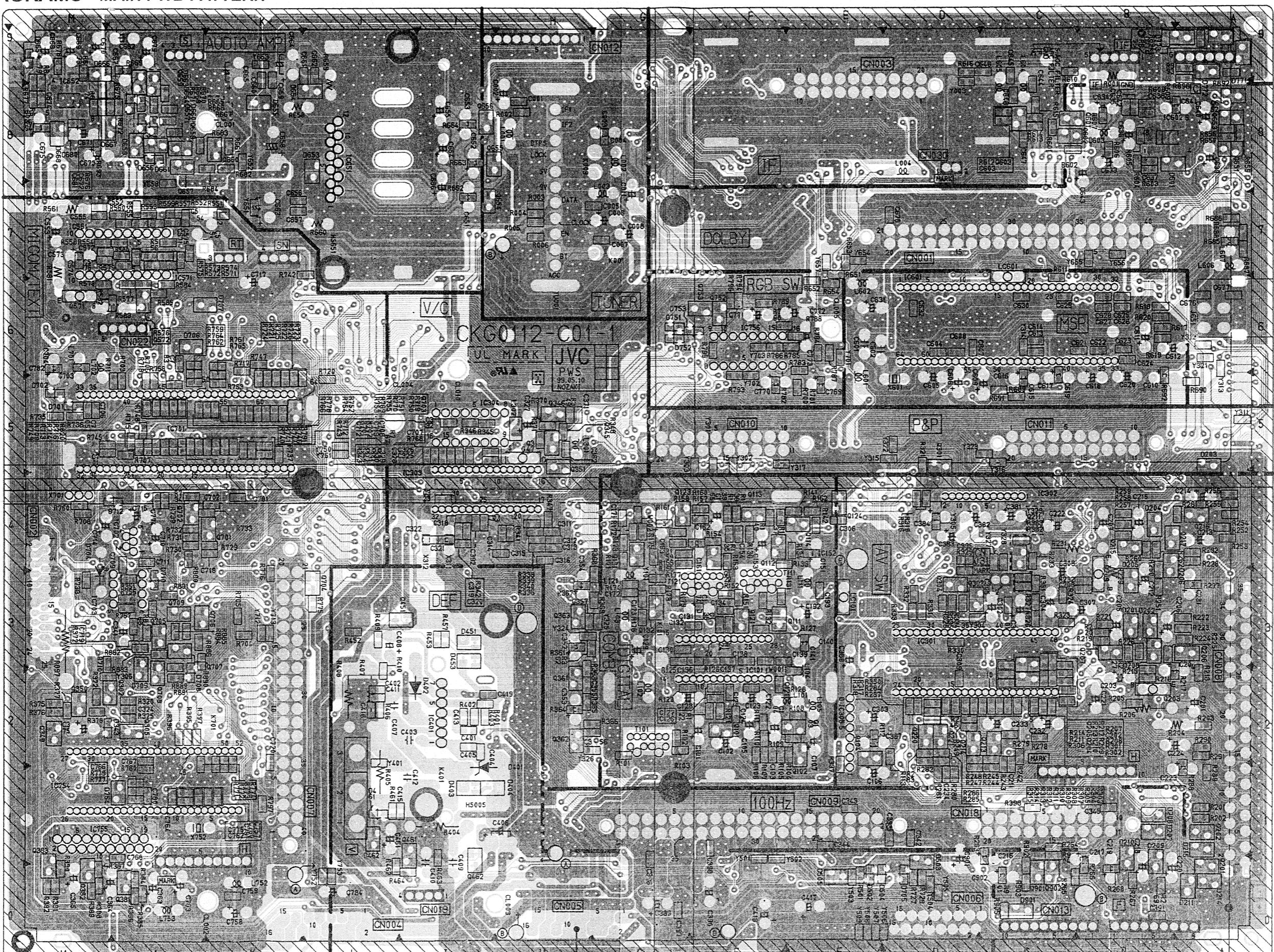
AV TERMINAL PWB CIRCUIT DIAGRAM



AV TERMINAL PWB ASS' Y
SMD0J001A-U2

PATTERN DIAGRAMS MAIN PWB PATTERN

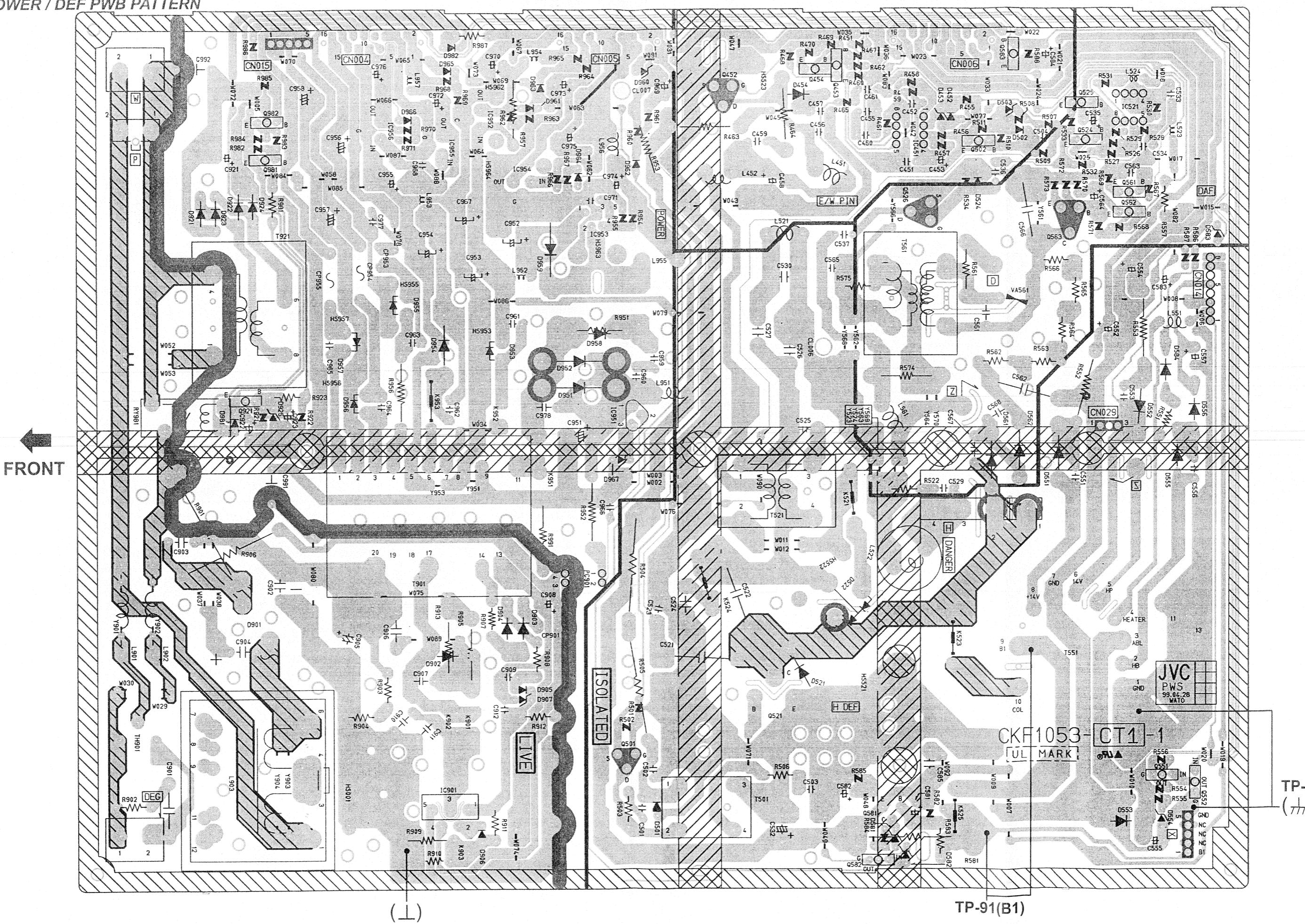
FRONT



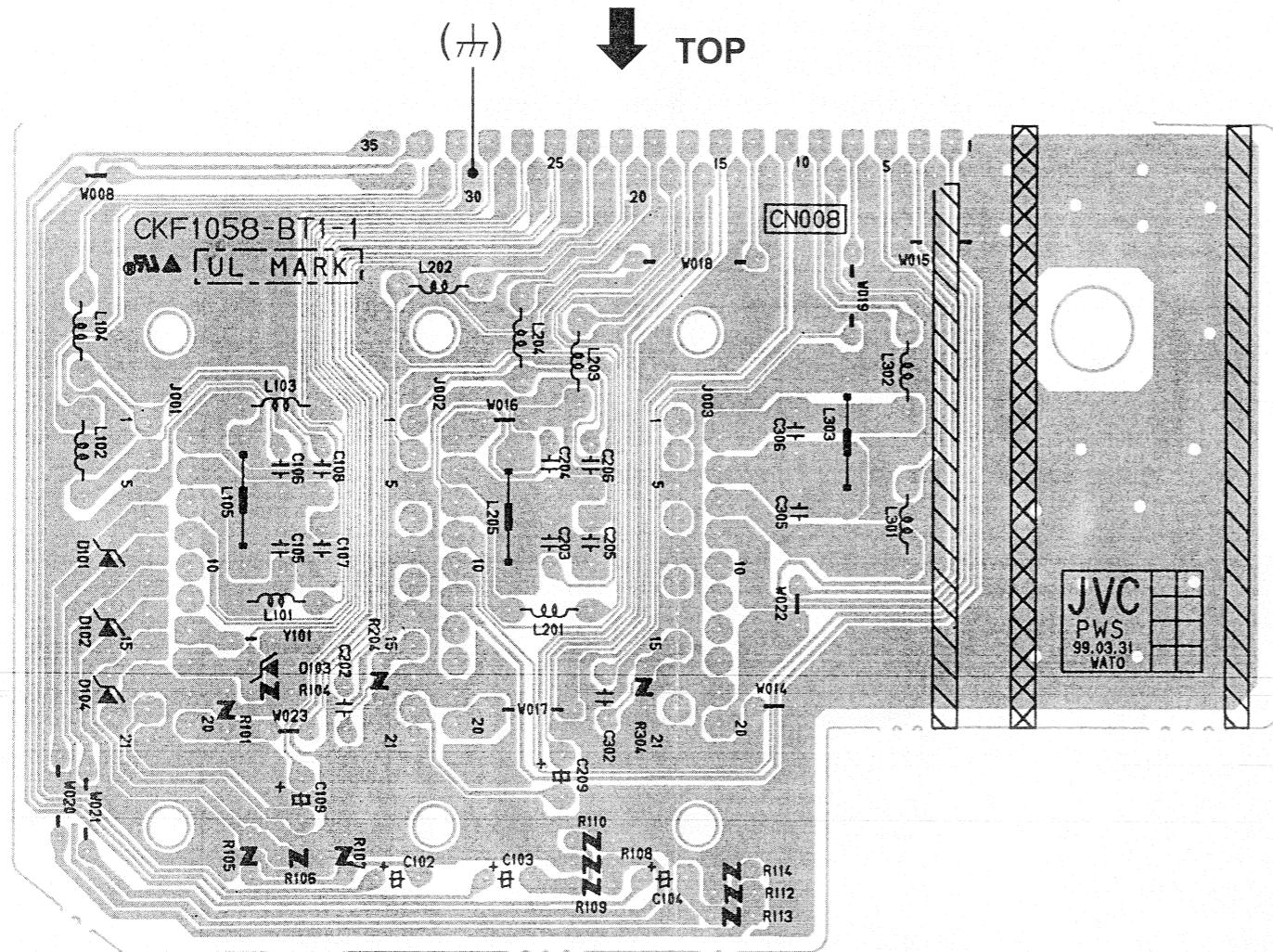
AV-32WZ4EP
AV-28WZ4EP
AV-28WZ4EPS

AV-32WZ4EP
AV-28WZ4EP
AV-28WZ4EPS

POWER / DEF PWB PATTERN



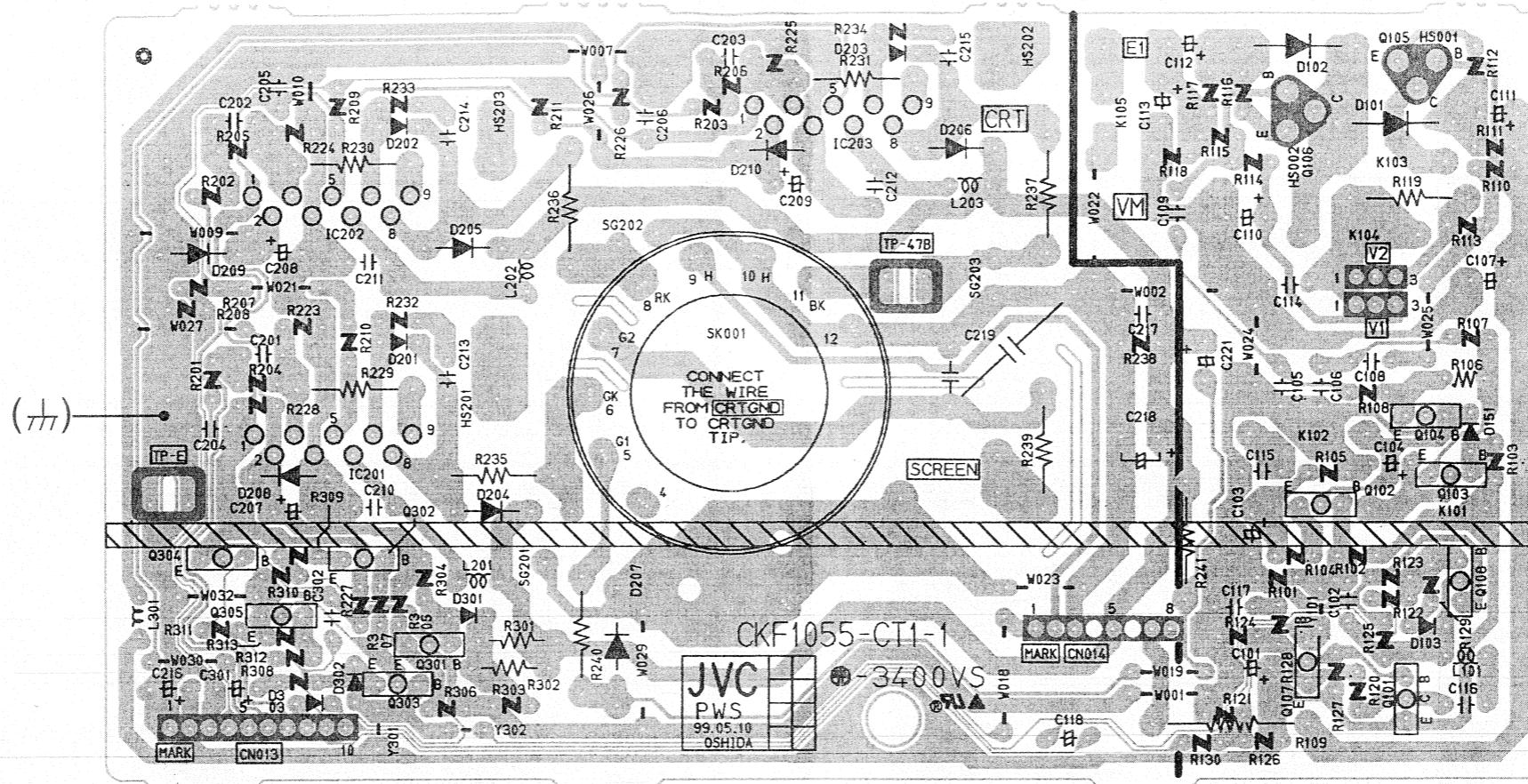
AV TERMINAL PWB PATTERN



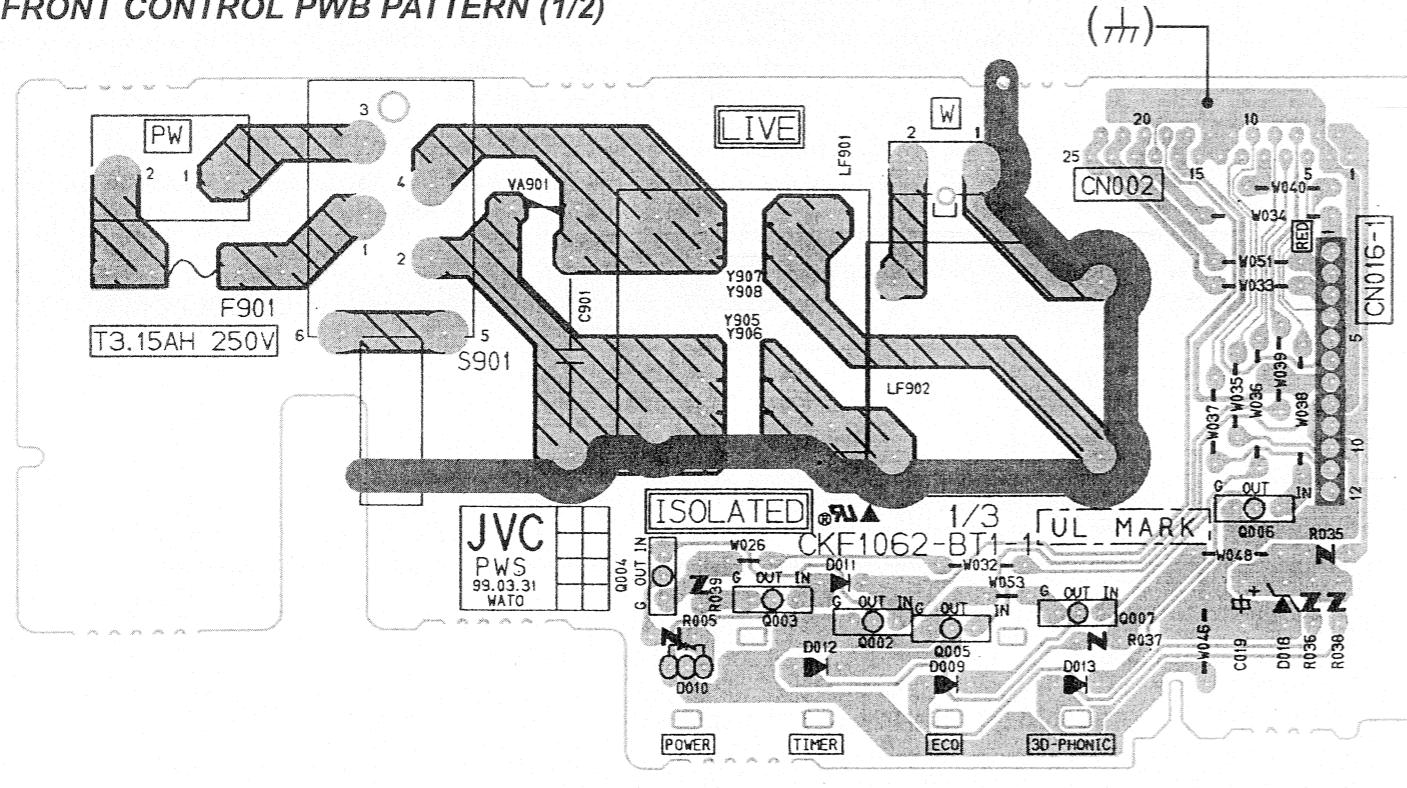
CRT SOCKET PWB PATTERN

AV-32WZ4EP
AV-28WZ4EP
AV-28WZ4EPS

TOP

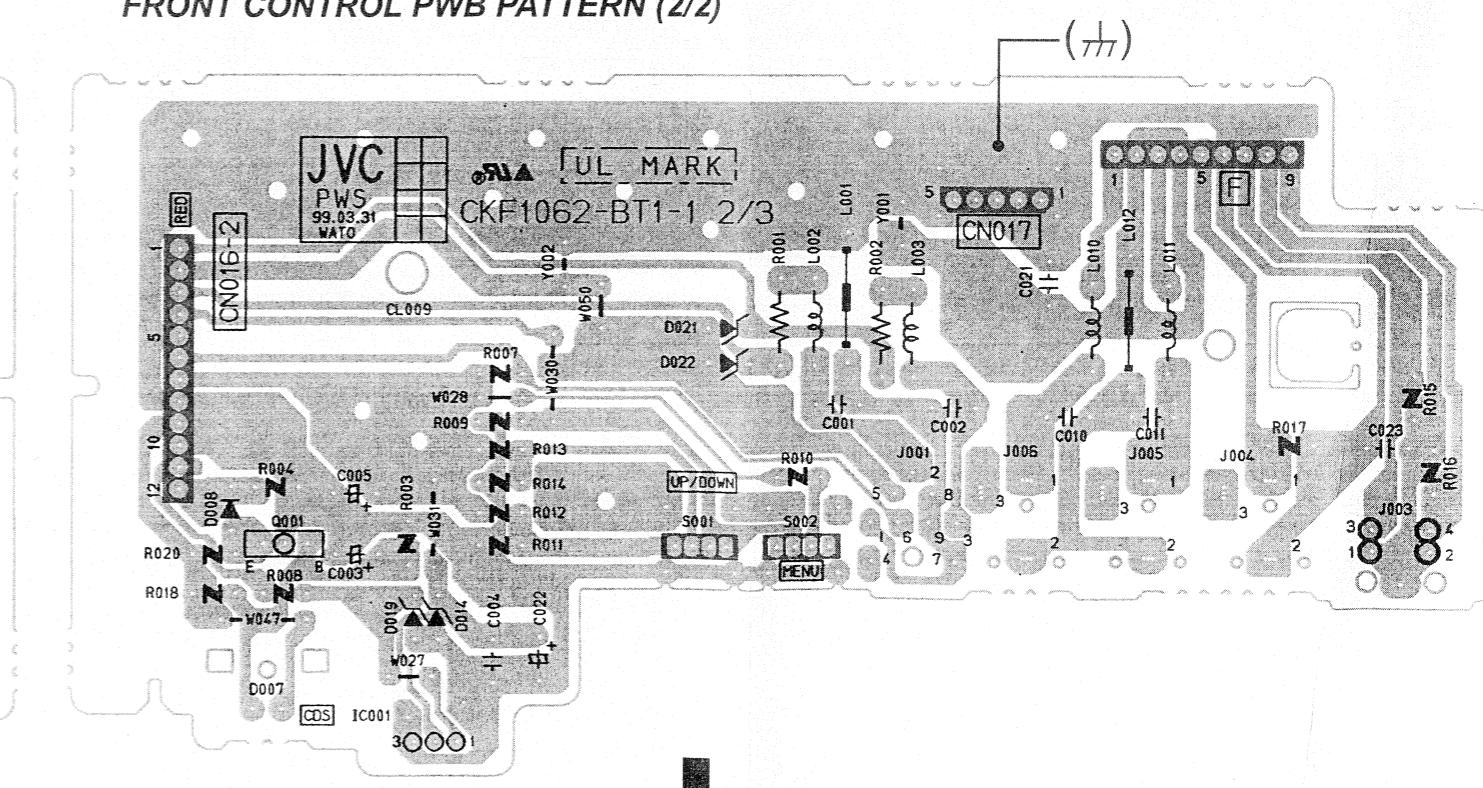


FRONT CONTROL PWB PATTERN (1/2)



FRONT

FRONT CONTROL PWB PATTERN (2/2)



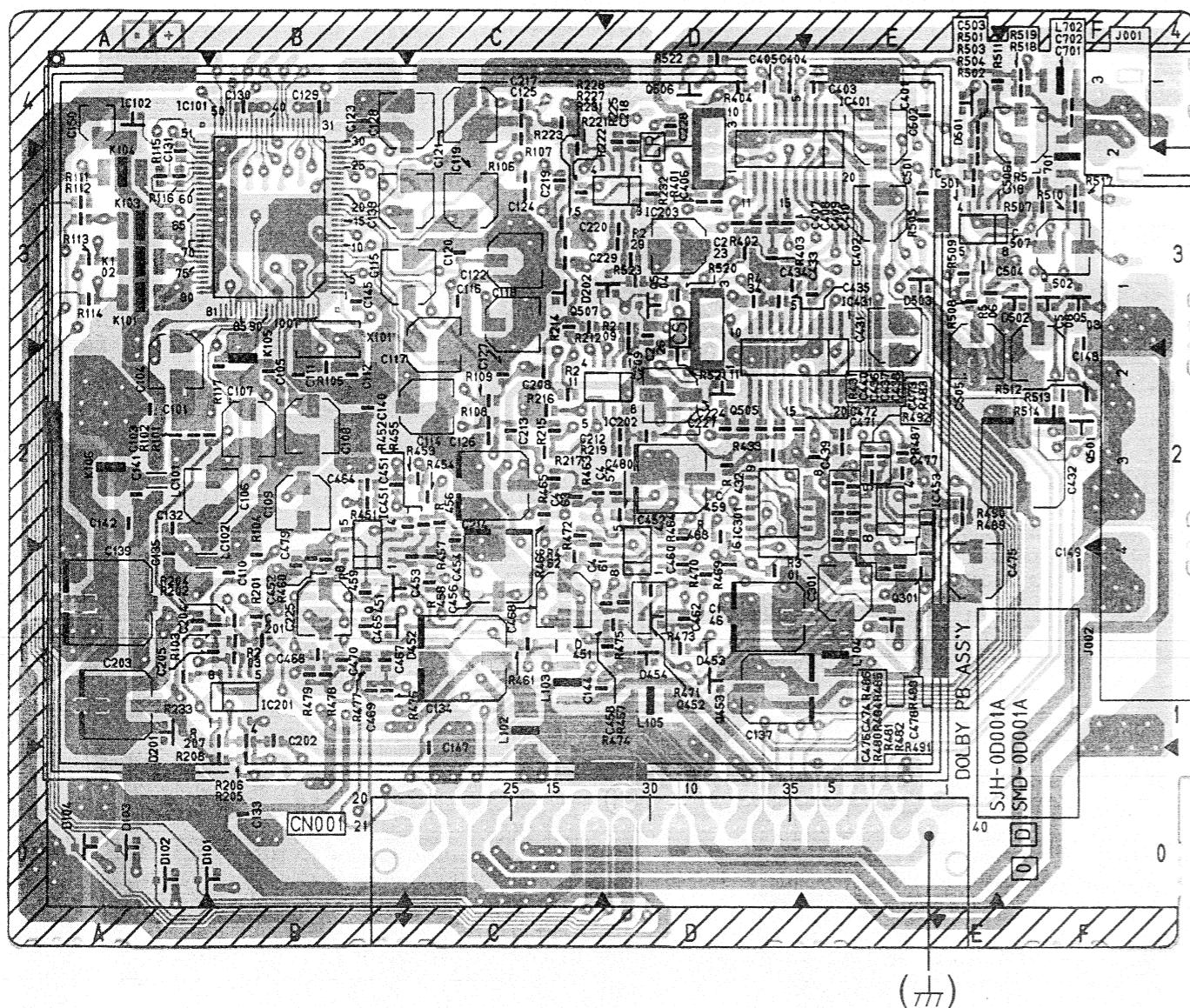
FRONT

DOLBY PWB PATTERN (PARTS SIDE)

AV-32WZ4EP
AV-28WZ4EP
AV-28WZ4EPS

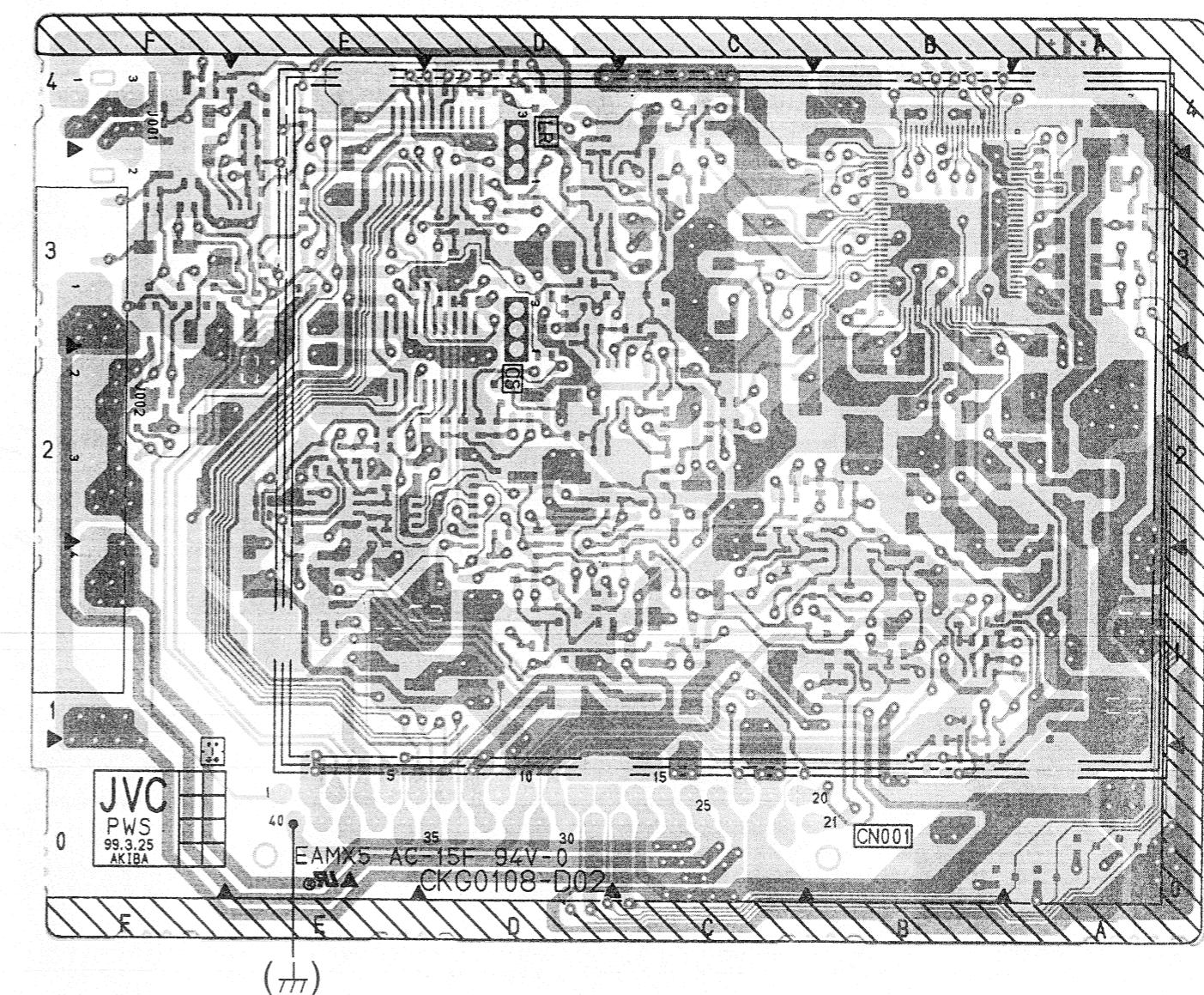
AV-32WZ4EP
AV-28WZ4EP
AV-28WZ4EP

TOP



DOLBY PWB PATTERN (SOLDER SIDE)

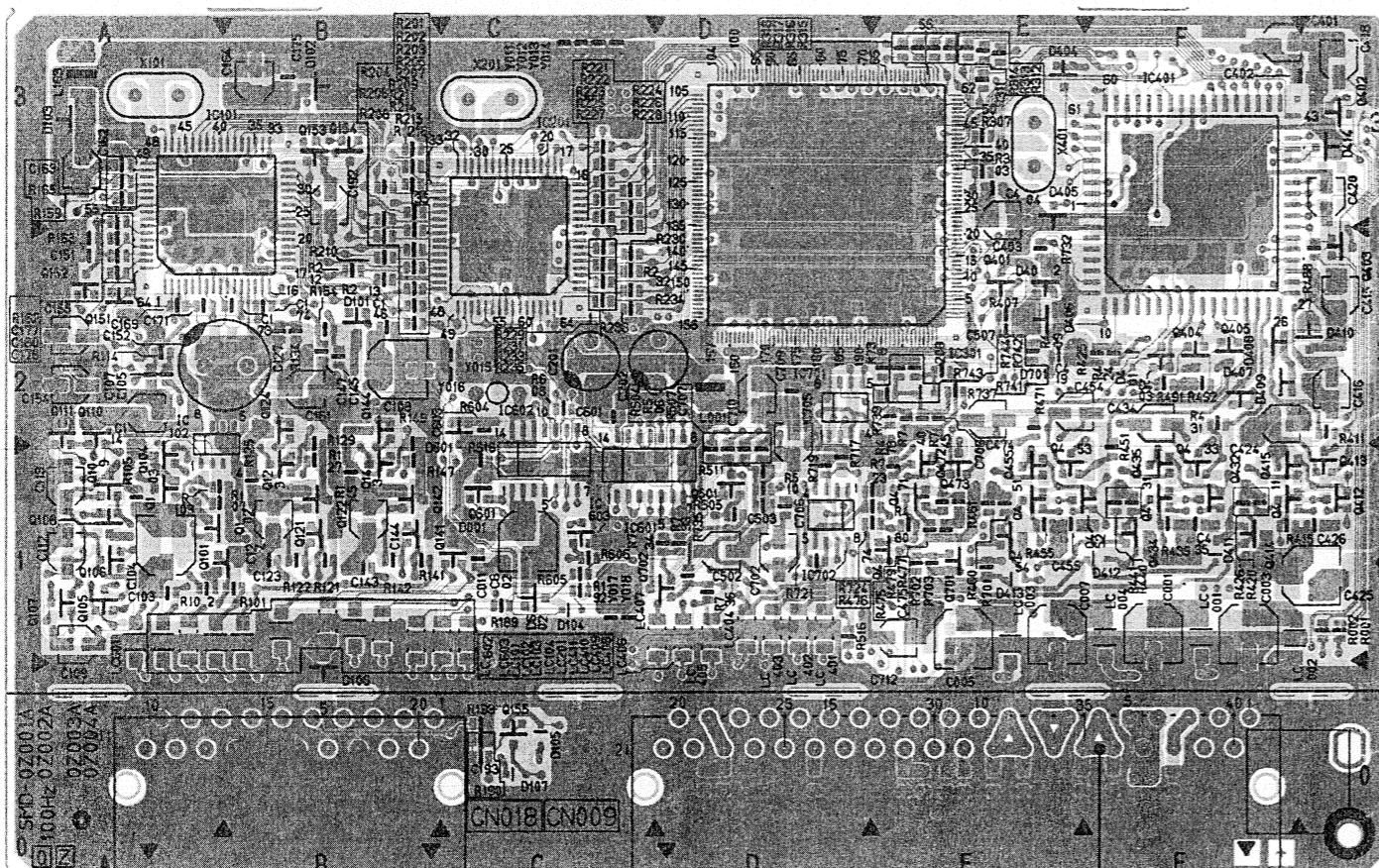
A black upward-pointing arrow icon.



100Hz PWB PATTERN (PARTS SIDE)

AV-32WZ4EP
AV-28WZ4EP
AV-28WZ4EPS

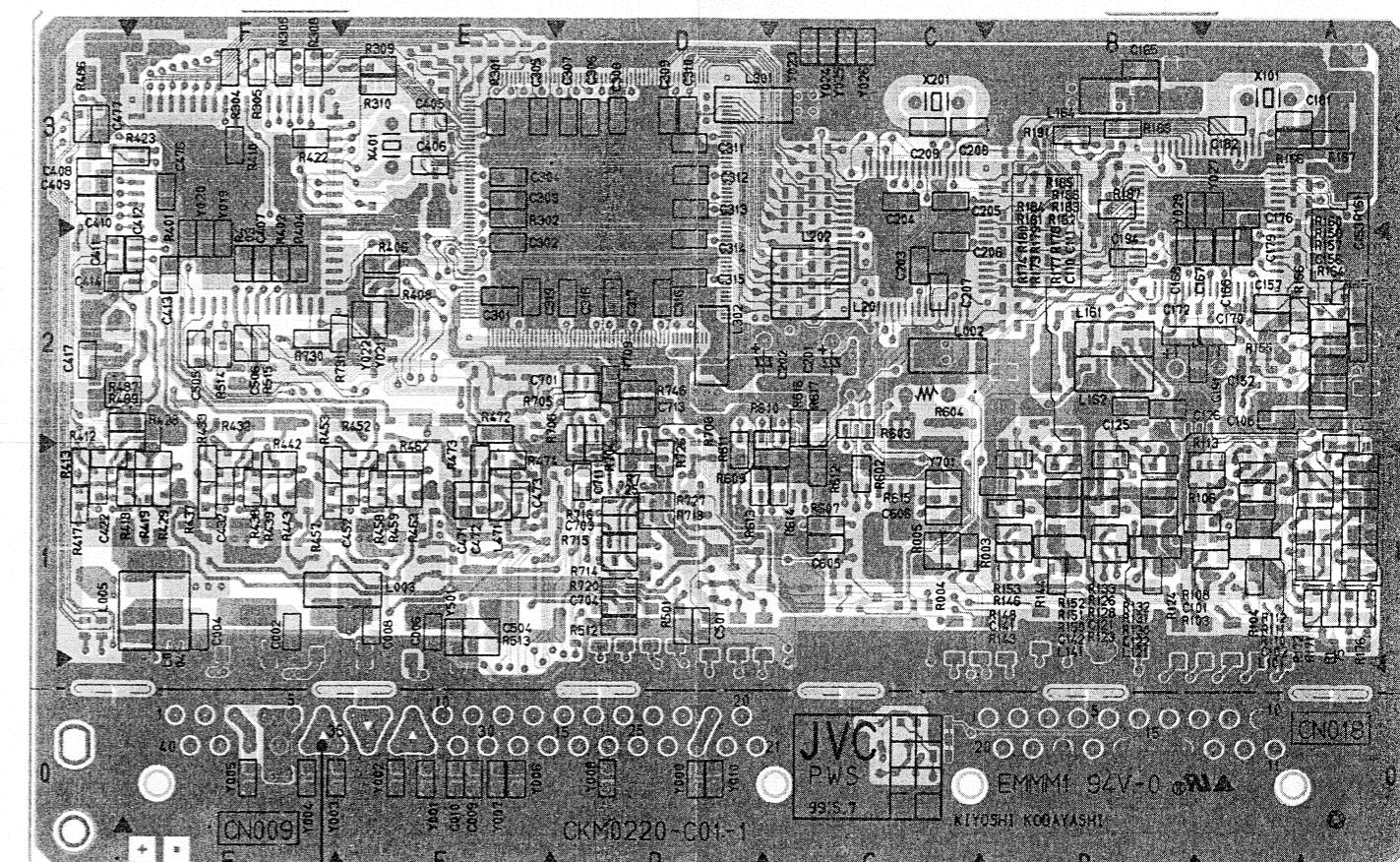
↑
TOP



100Hz PWB PATTERN (SOLDER SIDE)

AV-32WZ4EP
AV-28WZ4EP
AV-28WZ4EPS

↑
TOP

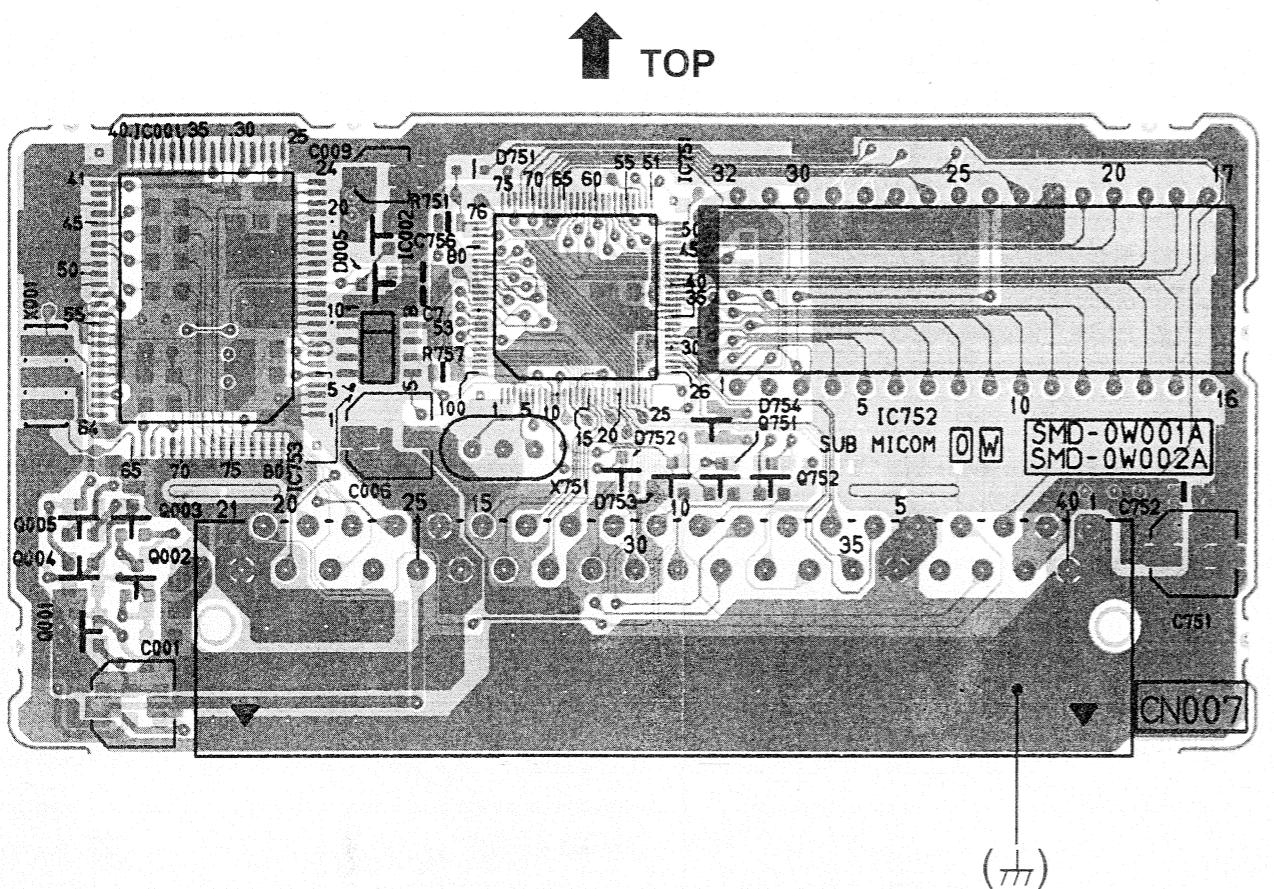


SUB MICON & AUTO PANORAMA PWB PATTERN (PARTS SIDE)

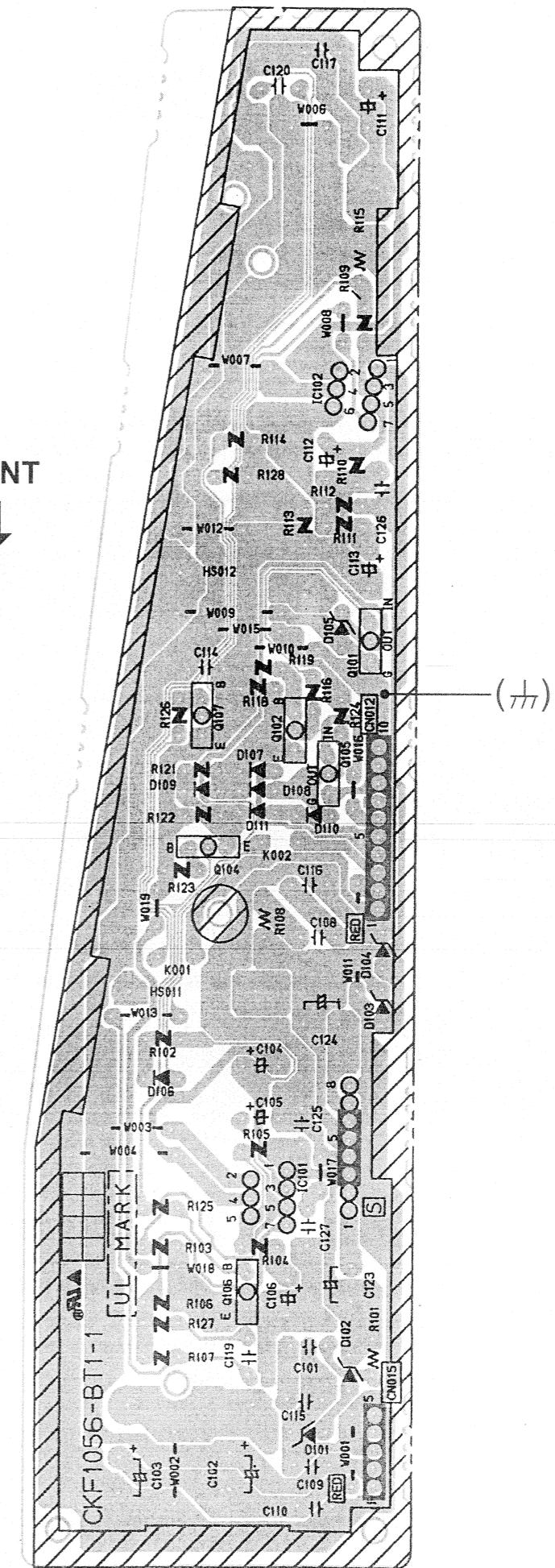
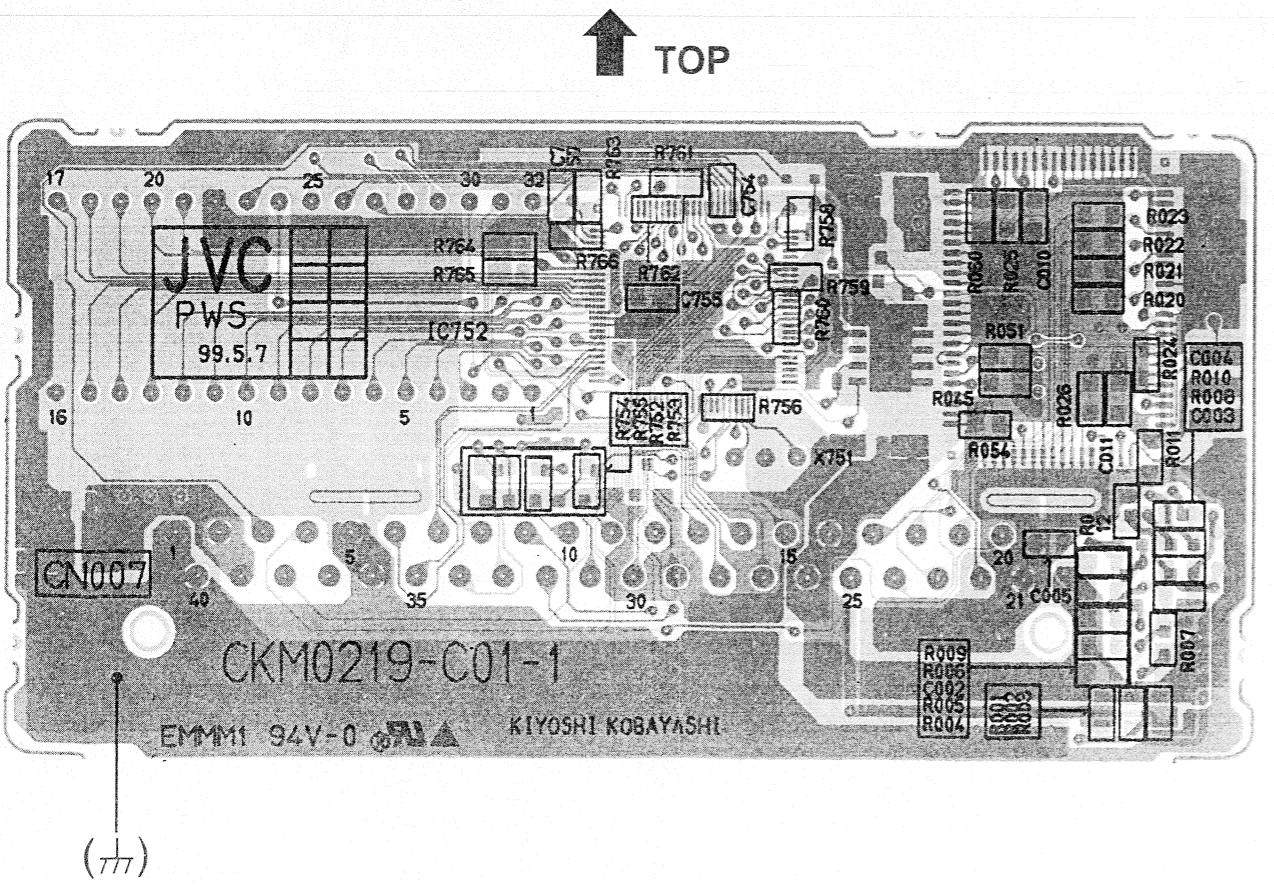
AV-32WZ4EP
AV-28WZ4EP
AV-28WZ4EPS

AV-32WZ4EP
AV-28WZ4EP
AV-28WZ4EPS

AUDIO PWB PATTERN



SUB MICON & AUTO PANORAMA PWB PATTERN (SOLDER SIDE)



OPERATING INSTRUCTIONS

JVC

COLOUR TELEVISION

**AV-28WZ4EP
AV-28WZ4EPS
AV-32WZ4EP**

ENGLISH

Instructions

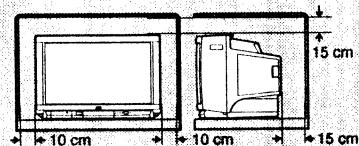
Thank you for buying this JVC colour television.
To make sure you understand how to use your new TV,
please read this manual thoroughly before you begin.

WARNING:
TO PREVENT FIRE OR SHOCK HAZARD, DO NOT EX-
POSE THIS APPLIANCE TO RAIN OR MOISTURE.

CAUTION:

TO ENSURE PERSONAL SAFETY, OBSERVE THE
FOLLOWING RULES REGARDING THE USE OF THIS
UNIT.

1. Operate only from the power source specified (AC 220 - 240 V, 50 Hz) on the unit.
2. Avoid damaging the AC plug and power cord.
3. Avoid improper installation and never position the unit where good ventilation is unattainable.
When installing this television, distance recommendations must be maintained between the floor and wall, as well as installation in a tightly enclosed area or piece of furniture. Adhere to the minimum distance guidelines shown for safe operation.
4. Do not allow objects or liquid into the cabinet openings.
5. In the event of a fault, unplug the unit and call a service technician. Do not attempt to repair it yourself or remove the rear cover.



When you don't use this TV set for a long period of time,
be sure to disconnect the power plug from the AC socket.

Natural Vision
T-V LINK

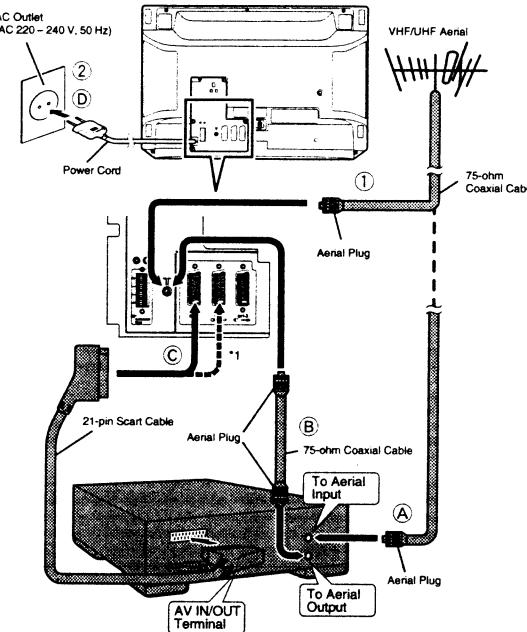
CONTENTS

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Preparation

1 Connecting the Aerial and VCR

If connecting a VCR, follow A → B → C → D.
If not connecting a VCR, follow 1 → 2.



Notes:

- For further details, refer to the manuals provided with the devices to be connected.
- The connecting cables are not provided.
- A video can be viewed from the VCR without performing C. For details, refer to the VCR manual.
- The shaded items are not provided.
- To connect additional external devices, please refer to page 30.
- To connect external speakers or audio system, please refer to page 31.

*1 This TV is T-V LINK compatible. To operate T-V LINK, a T-V LINK compatible VCR must be connected to the EXT-2 Terminal in the Features menu to ON. (See "Decoder (EXT-2)" on page 24.) Otherwise, you will not be able to view scrambled channels.

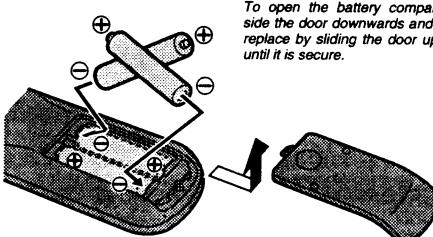
Notes:

- For details about T-VLINK, refer to page 5.
- When a decoder is connected to a T-VLINK compatible VCR, set the Decoder (EXT-2) in the Features menu to ON. (See "Decoder (EXT-2)" on page 24.) Otherwise, you will not be able to view scrambled channels.

2 Putting Batteries into the Remote Control

Use two AAA/R03 dry cell batteries.

Insert the batteries from the \ominus end, making sure the \oplus and \ominus polarities are correct.



To open the battery compartment, slide the door downwards and lift off, replace by sliding the door upwards until it is secure.

Notes:

- Follow the warnings printed on the batteries.
- Battery life is about six months to one year, depending on frequency of use.
- If the remote control doesn't work properly, replace the batteries.
- The batteries we supply are only for setting up and testing your TV, please replace them as soon as necessary.
- Always use good quality batteries.

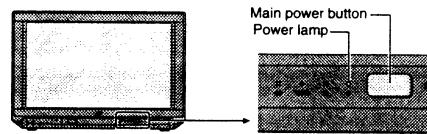
Preparation

3 Initial Setting

You can automatically set up to 99 TV stations to PR channels PR 1 to PR 99 on this TV.

1 Press the Main power button.

The Power lamp lights red (power on), then green (TV on).

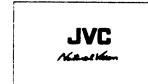


Notes:

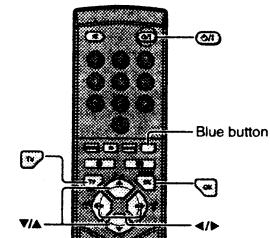
- If the power lamp stays red and does not change to green: Your TV is in the standby mode. Press (Standby) on the remote control to turn your TV on.

- The TV only enters the initial setting mode the first time it is switched on, if you want to change the language and programme settings after this, please refer to page 25.

■ When the TV is first turned on, it enters the initial setting mode, and the JVC logo is displayed.



2 Press .



3 Press to choose ENGLISH.



4 Press .



The language is set for the on-screen display description, and the Country menu appears.



5 Press to choose your country.



6 Press the blue button.

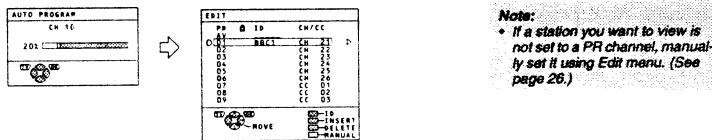


The Auto Programming starts.
The EDIT menu is displayed after the PR channels have been set.

Notes:

- If this TV identifies a broadcast station name, that station ID is also automatically registered in a PR channel.
- To cancel the Auto programming, press .
- To edit PR channels or allocate a station to the PRO (AV) channel, refer to page 26 "Edit/Manual".

(Continued to the next page)

Preparation

When the ACI menu is displayed:
If your Cable TV station supports ACI (Automatic Channel Installation), the ACI menu is displayed. Please operate it according to the "ACI Operation" procedures at the bottom of this page. The channel is set quickly to the PR channel according to the order decided for all the channels.

7 Press to exit the Edit menu.

**When a T-V LINK compatible VCR is connected**

8 Turn the VCR on.

9 Press .



The transmission of PR channel data from the TV to the VCR begins. The display disappears once the data transmission ends.
This completes the Initial Setting procedure.

Notes:

- For details about T-V LINK, refer to page 5.
- Depending on the type of VCR, the display may change once data transmission ends. In this case, refer to the VCR's Instruction manual.

ACI Operation

1 Press to choose your area.

2 Press .

"ACI" is displayed in the AUTO PROGRAM menu and the ACI starts. The EDIT menu is displayed after the channels have been set.

3 If "ACI ERROR" is displayed, press to re-start the ACI.

* If "ACI ERROR" is displayed anyway, press and cancel ACI, then start the ordinary Auto Programming.

Notes:

- The ACI may not work correctly if you don't have good reception.

T-V LINK Functions

- When a T-V LINK compatible VCR is connected to the EXT-2 Terminal on the TV, the procedures for setting up the VCR and viewing videos are simplified.
- T-V LINK uses the following features:

	Function	Features	Remarks
①	Preset Download	Downloads the PR channel tuning information from the TV to the VCR.	<ul style="list-style-type: none"> Starts automatically when the initial setting is complete or whenever the Auto Program or Edit/Manual operations from the Install menu are performed. This function can be operated via VCR operation.
②	DIRECT REC (WYSIWYR)	- What You See Is What You Record - You can record to VCR the images that you are currently viewing on TV by one-touch operation. For details, read the manual for your VCR.	<ul style="list-style-type: none"> Operate via the VCR. (Operation via the TV is not possible.) "VCR IS RECORDING" is displayed.
③	TV Auto Power On	When the VCR starts playing, the TV automatically turns on and switches to the EXT-2 input mode.	<ul style="list-style-type: none"> This function does not operate if your TV's main power is turned off. Set your TV's main power to on (standby mode).
	VCR Image View	When the VCR menu is operated, the TV automatically turns on and switches to EXT-2 input mode.	

To use T-V LINK:

- a T-V LINK compatible VCR is necessary.
- the VCR must be connected to the EXT-2 terminal on the TV by a fully wired SCART cable.

T-V LINK compatible VCRs:

In addition to all JVC VCRs that have the T-V LINK logo, any VCR that has one of the following logos are available for use:

- "Q-LINK" (a trademark of Panasonic Corporation)
- "Data Logic" (a trademark of Metz Corporation)
- "Easy Link" (a trademark of Philips Corporation)
- "Megalogic" (a trademark of Grundig Corporation)
- "SMARTLINK" (a trademark of Sony Corporation)

- These VCRs may support some or all of the features described above. For details, refer to the VCR Instruction Manual.

When "FEATURE NOT AVAILABLE" is displayed:

If "FEATURE NOT AVAILABLE" is displayed after download execution, the download was not performed correctly. Confirm the following before re-executing download:

- that the VCR power is turned on.
- that the VCR is T-V LINK compatible.
- that the VCR is connected to the EXT-2 terminal.
- that the SCART cable is fully wired.

Operating Precautions for DIRECT REC:

- Generally, the VCR cannot record a channel that cannot be received properly by the VCR's tuner even though that channel could be viewed on the TV.
- In the following conditions, the VCR will stop recording if the TV is turned off, if the TV channel or input is switched, or if the menu is displayed on the TV:
 - When recording images from an external device connected to the EXT-1, EXT-3 or EXT-4 terminal.
 - When recording a channel after it has been unscrambled on a decoder.
 - When recording a channel by using the TV's output because that channel cannot be properly received on the VCR's tuner.

Note:

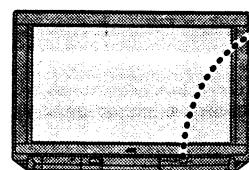
- Not all VCRs support this type of data communication. Some may support certain features and not support others. For complete details, refer to the VCR Instruction Manual.

Note:

- Some VCRs can record a channel by using the TV's output if that channel can be viewed on the TV, even though the channel cannot be received properly by the VCR's tuner.

For details, refer to the VCR Instruction Manual.

Basic Operation



Turn the Main power on.



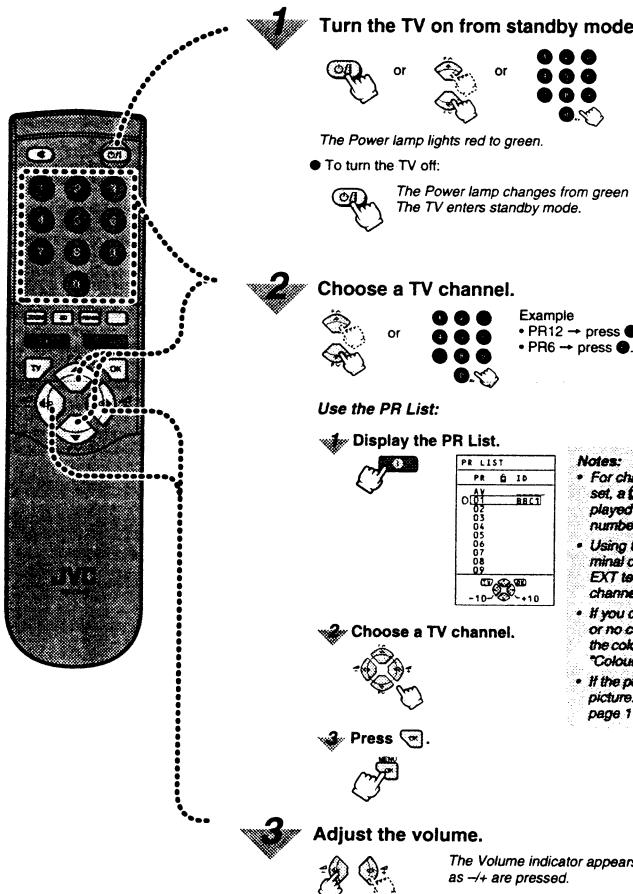
The Power lamp lights red and your TV is in the standby mode.
• If the Power lamp lights green, the TV is already on.

To turn the Main power off:



The Power lamp goes off.
• To save energy, turn the main power off if not using the TV for a long period of time.

Operating with the Remote Control



Turn the Main power on.



The Power lamp lights red and your TV is in the standby mode.
• If the Power lamp lights green, the TV is already on.

To turn the Main power off:

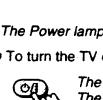


The Power lamp goes off.
• To save energy, turn the main power off if not using the TV for a long period of time.

Turn the TV on from standby mode.

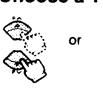


The Power lamp lights red to green.
• To turn the TV off:



The Power lamp changes from green to red.
The TV enters standby mode.

Choose a TV channel.



Example
• PR12 → press ● and ●.
• PR6 → press ●.



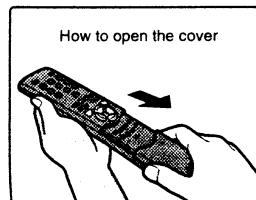
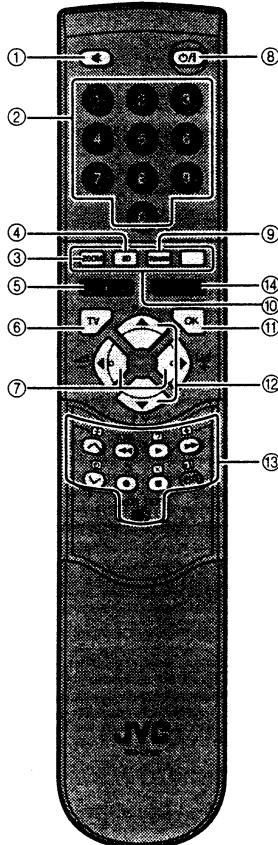
Use the PR List:



Display the PR List.

PR LIST	PR Q ID
01	AV
02	REC1
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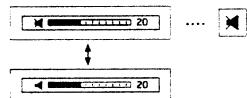
Remote Control Buttons and Functions



1 Muting Button

You can turn the volume off instantly.

Pressing (Muting) changes the current volume to "0".



2 Number Buttons

You can choose a channel by entering the channel number.

Example:

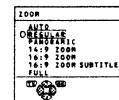
- PR 12 → press and .
- PR 6 → press .

■ You can choose an EXT terminal or PR 0 (AV) channel by pressing button repeatedly.

3 ZOOM Button

You can change the screen size. (See page 9.)

1 Press and press / to choose ZOOM mode.



2 Press .

The picture expands and the choosed ZOOM mode is displayed in about 5 seconds.

Examples:

- For details, see next page.
- You can preset a ZOOM mode for the normal picture. See "4:3 Auto Aspect" on page 17.

Remote Control Buttons and Functions

ENGLISH

ZOOM Button (continued)

Mode	Recommended Picture (Aspect)	Display	Remarks
AUTO	Any picture format except Normal Picture (4:3 Aspect Ratio)	The picture will be automatically displayed in the optimum screen size.	• AUTO may not function properly with poor signal quality. In this case, choose an optimum ZOOM mode manually.
	Normal Picture (4:3 Aspect Ratio)	Displayed in accordance with the zoom mode set on the 4:3 Auto Aspect menu. (See page 17 for further details.)	
REGULAR	Normal Picture (4:3 Aspect Ratio)	→	• Use to view a normal picture (4:3 aspect ratio) unchanged.
PANORAMIC	Normal Picture (4:3 Aspect Ratio)	→	• This mode stretches the left and right sides of a normal picture to fill the screen, in a way that does not appear unnatural. • The top and bottom of the picture are slightly cut off.
14:9 ZOOM	Wide Picture (14:9 Aspect Ratio)	→	
16:9 ZOOM	Wide Picture (16:9 Aspect Ratio)	→	
16:9 ZOOM SUBTITLE	Wide Picture (16:9 Aspect Ratio) with Subtitles	→	
FULL	Normal Picture (4:3 Aspect Ratio)	→	• This mode uniformly stretches the left and right sides of a normal picture (4:3 aspect ratio) to fill the wide TV screen. • Use for pictures with a 16:9 aspect ratio that have been squeezed into a normal picture (4:3 aspect ratio), you can restore their original dimensions.

Note:

- This television supports WSS (wide-screen signals). When broadcasts with WSS are received with the ZOOM mode set at AUTO, the most suitable ZOOM mode is automatically selected in accordance with the WSS.

Adjusting the visible area of the picture.

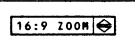
If subtitles or the top (or bottom) of the picture are cut off, adjust the visible area of the picture manually.

1 Press .

The ZOOM menu appears.

2 Press to display the ZOOM mode indicator.

Indicator is displayed.



3 Before it disappears, press / to adjust the visible area vertically.

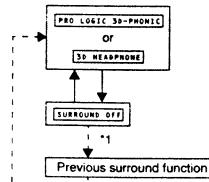
Notes:

- You cannot adjust the visible area in AUTO, REGULAR and FULL mode.
- To return to the default position, display the ZOOM menu again and press .

Remote Control Buttons and Functions

4 3D Button

Pressing  (3D) toggles the surround function as follows:

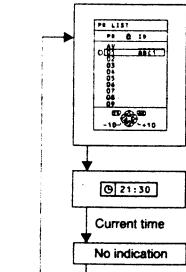


*1: If a surround function different from the Dolby Pro Logic 3D-Phonic or the 3D Headphone is activated before you press  (3D), that surround function is returned to.

- The Dolby Pro Logic 3D-Phonic will be activated when the headphones are not connected. For details on the Dolby Pro Logic 3D-Phonic, refer to page 19.
- The 3D Headphone will be activated when the headphones are connected. For details on the 3D Headphone, refer to page 21.
- The 3D lamp on the TV lights when the Dolby Pro Logic 3D-Phonic or 3D Headphone function is activated.

5 Information Button

Pressing  (Information) changes the display as follows:



About the PR List:

You can choose TV channels and EXT terminals operating the PR List. For details, see "Use the PR List" on page 6.

About the current time display:

This TV uses teletext data to set the current time.

- If the TV has not received a station that has teletext data since it was turned on, the time display is blank. To see the current time, choose a station that is broadcasting teletext data. As long as you do not turn off the TV, then even if you choose other stations, the time will still be displayed.
- When watching videos, the wrong current time is sometimes displayed.

Note:
• When an EXT terminal with no input signal is chosen, the EXT number and ID become fixed on the screen.

- The  (Information) button is also used for the menu operation. Please refer to "Menu Operation" on page 14 for more information.

6 TV Button

You can return to the TV mode instantly by pressing .

- The  button is also used for the menu operation. Please refer to "Menu Operation" on page 14 for more information.

7 ▲/▼ Buttons

You can adjust the volume.

- The Headphone volume cannot be adjusted with the ▲/▼ buttons. If you want to adjust it, please refer to "Headphone" on page 19.
- The ▲/▼ buttons are also used for the menu operation. Please refer to "Menu Operation" on page 14 for more information.

8 Standby Button

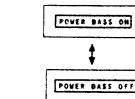
Pressing  (Standby) button turns the TV on or off.

- When the TV is turned on, the power lamp changes from red to green.

9 P.BASS (power bass) Button

You can enjoy richer and fuller bass sound.

Pressing  (Power Bass) turns the Power Bass on or off.



Remote Control Buttons and Functions

10 Colour Buttons

The colour buttons are used for the teletext operations or the menu operations. Please refer to "Teletext Control Buttons and VCR/TEXT Switch" on page 12 or "Menu operation" on page 14 for more information.

11 OK Button

The  button is used for menu operation. Please refer to "Menu Operation" on page 14 for more information.

12 ▲/▼ Buttons

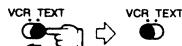
You can choose a channel by pressing the ▲/▼ buttons.

- The ▲/▼ buttons are also used for the menu operation. Please refer to "Menu Operation" on page 14 for more information.

13 VCR Control Buttons and VCR/TEXT Switch

You can control your JVC VCR using the VCR Control buttons.

1 Set the VCR/TEXT Switch to the VCR side.



2 Press a VCR control button to control your JVC VCR.



Notes:

- For details on the VCR Control buttons, see the VCR manual.
- Depending on your VCR, the remote control may not operate perfectly, and may not even control the VCR at all.

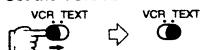
Remote Control Buttons and Functions

10 13 14 Teletext Control Buttons and VCR/TEXT Switch

■ Basic operation

You can view three types of teletext broadcasts on the TV: Fastext, TOP and WST.

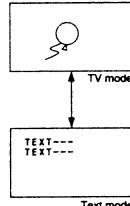
- 1 Choose a channel with a teletext broadcast.
- 2 Set the VCR/TEXT switch to the TEXT side.



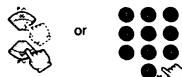
- 3 Display the teletext.



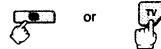
Pressing (Text) change the mode as follows:



- 4 Choose a teletext page.



- To return to the TV mode:



Notes:

- If you have trouble receiving teletext broadcasts, consult your local dealer or the teletext station.
- Category names of teletext pages may appear instead of page numbers.
- In Text mode, ZOOM mode is fixed to FULL mode.
- None of the Menu operations are possible when viewing a teletext programme.

■ Using the List Mode

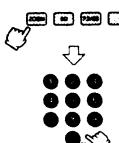
You can store the numbers of your favourite teletext pages and call them up quickly using the colour buttons.

To store the page numbers

- 1 Engage the List mode.

Stored page numbers are displayed at the bottom of the screen.

- 2 Choose the position, then enter the page number.



- 3 Press (Store) and hold on.

The four page numbers blink white to indicate that they are stored in memory.

To call up a stored page

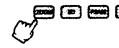
- 1 Engage the List mode.



To cancel the List mode:

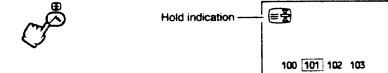


- 2 Press a colour button to which a page has been assigned.



■ Hold

You can hold a teletext page on the screen for as long as you want, even while several other teletext pages are being received.



To cancel the hold:



Remote Control Buttons and Functions

■ Sub Page

Some teletext pages include sub-pages that are automatically displayed. You can hold any sub-page, or view it at any time.

- 1 Display the sub-page list.

Sub-page numbers are displayed at the left of the screen.

Colour*	Meaning of sub-page number
Yellow	Currently being displayed.
White	Can be displayed.
Blue or Red	Cannot be displayed and it is not sent.

* Background color of the sub-page number.

- 2 Choose a sub-page.

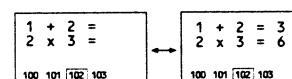
To cancel sub-page:



■ Reveal

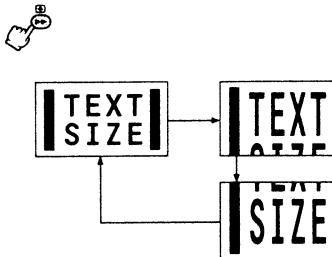
Some teletext pages include hidden text (such as answers to a quiz).

Each time you press (Reveal), text is hidden or revealed.



■ Size

You can double the height of the teletext display.



■ Index

You can return to the index page instantly.



Fastext/TOP/WST:
Returns to page 100 or a previously specified page.

List mode:
Returns to the page number displayed in the lower left area of the screen.

ENGLISH

■ Cancel

You can search for a teletext page while watching TV.

- 1 Choose a teletext page.

The TV searches for a teletext page.

- 2 Cancel teletext mode temporarily.

The TV programme appears.
When the TV finds the teletext page, its page number appears in the upper left of the screen.

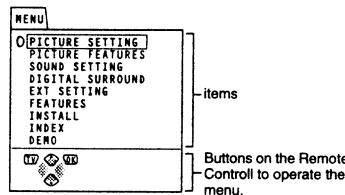
- 3 Return to a teletext page when the page number is on the screen.



AV-32WZ4EP
AV-28WZ4EP
AV-28WZ4EPS

Menu Operation

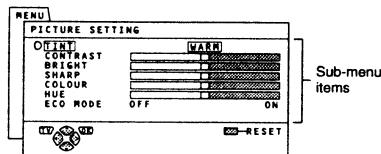
1 **Display MENU.**
 The MENU (main menu) appears.



2 **Choose an item.**


3 **Display the sub-menu.**


4 **Choose an Sub-menu item.**

5 **Change the setting.**


- Depending on the Sub-menu display, the following buttons can be used.



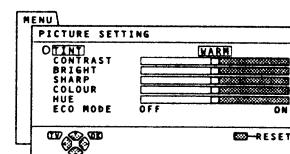
6 **Complete the setting.**


The menu disappears.

To return to the previous menu or exit the MENU.


To exit the MENU instantly.


Picture Setting



1 **Display MENU.**


2 **Choose PICTURE SETTING.**


3 **Display the Picture Setting menu.**


Tint

You can choose one of three Tint modes to adjust the picture settings automatically.

4 **Press ▼/▲ to choose TINT.**

5 **Press ▲/▼ to choose a mode.**

COOL:

A cool white colour base with a boost in the colour and contrast levels that creates a more vivid picture.

WARM:

A warm orange/red colour base that creates the appropriate colour and contrast levels for watching films.

NORMAL:

A normal white colour base with normal colour and contrast levels.

6 **Press □.**

This completes the setting.

Picture Adjustment

You can adjust the picture to your liking.

1 **Press ▼/▲ to choose an item.**

2 **Press ▲/▼ to adjust the setting.**

Item		
Lower	Contrast (picture contrast)	Higher
Darker	BRIGHT (picture brightness)	Brighter
Softer	SHARP (picture sharpness)	Sharper
Lighter	COLOUR (picture colour)	Deeper
Reddish	HUE (picture hue)	Greenish

Note:

- You can adjust the HUE (picture hue) only when the colour system is NTSC 3.58 or NTSC 4.43.

- To return to the default settings, press the blue button.

3 **Press □.**

This completes the setting.

Eco Mode

When you set the Eco Mode to ON, the screen contrast is automatically adjusted to a setting suitable for the brightness of your room.

This reduces eye strain and the power consumption of the TV.

1 **Press ▼/▲ to choose ECO MODE.**

2 **Press ▲/▼ to choose ON.**

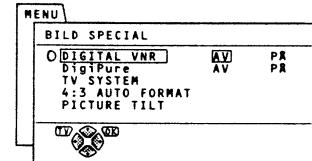
- To cancel the Eco Mode, choose OFF.

3 **Press □.**

This completes the setting.

- If you set the Eco Mode to ON, the Eco lamp lights.

Picture Features



1 Display MENU.



2 Choose PICTURE FEATURES.



3 Display the Picture Features menu.



Digital VNR

When you set the Digital VNR to ON, you can reduce the noise on the screen so improving picture quality further.

1 Press **▼/▲** to choose DIGITAL VNR.

2 Press **◀/▶** to choose ON.

• To cancel the Digital VNR, choose OFF.

3 Press **■**.

This completes the setting.

DigiPure

When the DigiPure is set to ON, optimum edge compensation applies to each portion of the same picture through digital edge compensation. Thus, Clear and natural looking images are obtained.

1 Press **▼/▲** to choose DigiPure.

2 Press **◀/▶** to choose ON.

• To cancel the DigiPure, choose OFF.

3 Press **■**.

This completes the setting.

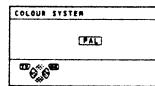
Notes:

- Set the DigiPure to ON normally.
- The DigiPure function can also be set to ON and OFF by pressing **AV** (Volume) button on the TV for 5 seconds or more.

Colour System

The colour system is automatically chosen, but if the picture is not clear or no colour appears, choose the colour system manually.

1 Press **▼/▲** to choose COLOUR SYSTEM. Then press **■**.



2 Press **◀/▶** to choose the appropriate colour system.

- PAL:**
PAL system.
- SECAM:**
SECAM system.
- NTSC3.58:**
NTSC 3.58 MHz system.
- NTSC4.43:**
NTSC 4.43 MHz system.
- AUTO:**
Automatic colour system selection.

Notes:

- The AUTO may not function properly with poor signal quality. If the picture is abnormal in AUTO mode, choose another colour system manually.
- When in the TV mode (PR 1 to PR 99), you cannot choose AUTO, NTSC 3.58 or NTSC 4.43.
- When in the TV mode (PR 0), you cannot choose NTSC 3.58 or NTSC 4.43.

3 Press **■**.

This completes the setting.

4:3 Auto Aspect

You can preset one of three ZOOM modes, REGULAR, PANORAMIC or 14:9 ZOOM, as the ZOOM mode for the normal picture (4:3 aspect ratio).

1 Press **▼/▲** to choose 4:3 AUTO ASPECT. Then press **■**.

The 4:3 AUTO ASPECT menu appears.



2 Press **▼/▲** to choose a ZOOM mode.

3 Press **■**.

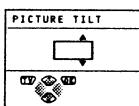
This completes the setting.

Picture Tilt

There are cases where the effects of the magnetic pull from the earth may make the picture tilt. If this happens, correct the picture as follows.

1 Press **▼/▲** to choose PICTURE TILT. Then press **■**.

The PICTURE TILT menu appears.



2 Press **▼/▲** until the picture becomes horizontal.

3 Press **■**.

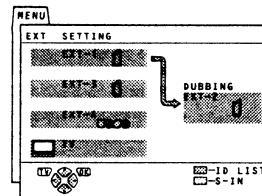
The correction is complete.

Picture Features

ENGLISH

AV-32WZ4EP
AV-28WZ4EP
AV-28WZ4EPS

EXT Setting



1 Display MENU.



2 Choose EXT SETTING.



3 Display the EXT Setting menu.

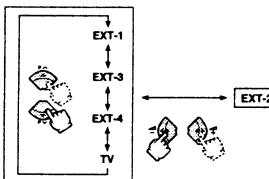


EXT Setting

You can choose S-VIDEO or normal input for EXT-2, EXT-3 and EXT-4 terminals, and you can give an EXT ID to each EXT input terminal.

To choose S-VIDEO input

1 Press $\blacktriangle/\triangledown/\blacktriangleright/\triangleright$ to choose an EXT terminal.



2 Press the yellow button.

The S-VIDEO input indication appears.

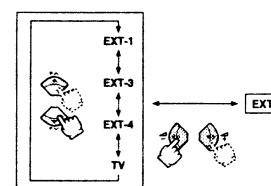
- To choose normal input, press the yellow button again.

3 Press \square .

This completes the setting.

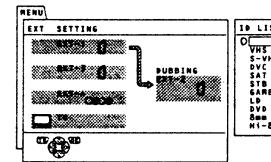
To give an EXT ID

1 Press $\blacktriangle/\triangledown/\blacktriangleright/\triangleright$ to choose an EXT terminal.



2 Press the blue button.

The ID LIST appears.



3 Press $\triangledown/\blacktriangleright$ to choose a EXT ID.

Note:
• To erase the EXT ID, choose a blank space.

4 Press \square .

The EXT ID is set to the EXT terminal.

5 Press \square .

This completes the setting.

Dubbing

You can choose output to a VCR or other device connected to the EXT-2 terminal. Note that you cannot output from the EXT-2 terminal when the TV is turned off.

Note:
• RGB signals from TV games and Teletext screens cannot be output from EXT-2 terminal.

1 Press $\blacktriangle/\triangleright$ to choose EXT-2.

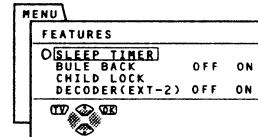
2 Press $\triangledown/\blacktriangleright$ to choose the output.

If you choose TV:
The sound and picture of the currently chosen channel is output to EXT-2 and this output can be recorded on a VCR connected to the EXT-2 terminal while watching a video input from other terminals.

3 Press \square .

This completes the setting.

Features



1 Display MENU.



2 Choose FEATURES.



3 Display the Features menu.



Note:

- One minute before the Sleep Timer turns off the TV, "GOOD NIGHT" appears.

Blue Back

You can set the TV to automatically change to a blue screen and mute the sound when a weak signal or no signal is received or when there is no input from an external device.

1 Press $\triangledown/\blacktriangleright$ to choose BLUE BACK.

2 Press $\blacktriangle/\triangleright$ to choose ON.

- To cancel the Blue Back, choose OFF.

3 Press \square .

This completes the setting.

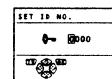
Child Lock

You can lock some channels to prevent your children from watching them.

To set the CHILD LOCK

1 Press $\triangledown/\blacktriangleright$ to choose CHILD LOCK. Then press \square (number 0).

The Set ID No. menu appears.

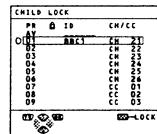


2 Enter the ID number.

- Press $\triangledown/\blacktriangleright$ to choose a number.
- Press $\blacktriangle/\triangleright$ to move the cursor.

3 Press \square .

The Child Lock menu appears.



4 Press $\blacktriangle/\triangleright$ to choose a period of time.

You can set the period of time a maximum of 120 minutes in 10 minute increments.

5 Press \square .

The Sleep Timer lamp lights if you set the Sleep Timer.

Sleep Timer

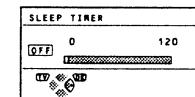
You can set the TV to automatically turn off after a specified period of time.

Note:

- The Sleep Timer does not turn off the Main power.

1 Press $\triangledown/\blacktriangleright$ to choose SLEEP TIMER. Then press \square .

The Sleep Timer menu appears.



2 Press $\blacktriangle/\triangleright$ to choose a period of time.

You can set the period of time a maximum of 120 minutes in 10 minute increments.

3 Press \square .

The Sleep Timer lamp lights if you set the Sleep Timer.

To display the remaining time:

Do step 1 to display the Sleep Timer menu, and press \square after checking the remaining time.

To cancel the Sleep Timer:

Do step 1 to display the Sleep Timer menu.

Press $\blacktriangle/\triangleright$ choose "OFF", and then press \square .

- The Sleep Timer lamp goes out.

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AV-28WZ4EP
AV-28WZ4EPS

ENGLISH

Features

Press **V/A** to choose a channel, then press the blue button.
The **l** (locked) mark appears, and the chosen channel is locked.

- To cancel the Child Lock, press the blue button again.
- Repeat step 4 to lock all channels which you want to lock.

Press **W**.

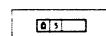
This completes the setting.

Notes:

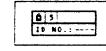
- You cannot choose a locked channel using the **V/A** button on the remote control nor the **P V/A** buttons on the TV.
- Even if a locked channel is displayed, the programme cannot be watched.

To watch a locked channel

Press the number buttons to choose a locked channel.
The **l** (locked) mark appears.



Press **W** (Information).
The ID No. input menu appears.



Press the number buttons to enter the ID number.
The locked channel can now be watched.

If you forget the ID number:
Do steps 1 of "To set the Child Lock". After confirming the ID number, press **W** to exit the menu.

Decoder (EXT-2)

When you connect a Decoder to a T-V LINK compatible VCR, you have to set the Decoder (EXT-2) to ON for watching scrambled channels.

Choose a scrambled channel.

The scrambled picture appears.

- If the picture is unscrambled you don't need to change the Decoder (EXT-2) setting.

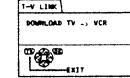
Press **W** to display MENU. Then Press **V/A** to choose FEATURES.

Press **W** to display the Features menu.

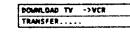
Press **V/A** to choose DECODER (EXT-2).

Press **W** to choose ON.

Press **W**.
The T-V LINK menu appears.



Press **W**.



The translation of channel data from the TV to the VCR begins. The display disappears once the data transmission ends.

- Repeat steps 1 to 7 to watch a different channel using the decoder.

Note:

- Depending on the type of VCR, the display may change once data transmission ends.
In this case, refer to the VCR's manual.

Install



Display MENU



Choose INSTALL.



Display the Install menu.



Language

You can choose one of 10 languages for the on-screen display.

Press **V/A** to choose LANGUAGE.

The Language menu appears.



Press **V/A** to choose a language.

Press **W**.
This completes the setting.

Auto Program

You can automatically allocate up to 99 stations to the PR channels (PR 1 to PR 99) on this TV.

Press **V/A** to choose AUTO PROGRAM, then press **W**.

The Country menu appears.



Press **W** to choose your country.

Press the blue button.

The Auto Programming starts. The Edit menu appears after the PR channels have been set.

If the ACI menu is displayed:

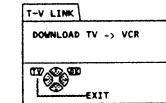
If your Cable TV station supports ACI (Automatic Channel Installation), the ACI menu is displayed. Please operate it according to "ACI Operation" procedures at the bottom of page 4. The channel is set quickly to the PR channel according to the order decided for all the channels.

Notes:

- If this TV identifies a broadcast station name, that station ID is also automatically registered in a PR channel.
- To cancel the Auto programming, press **W**.
- If a station you want to view is not set to a PR channel, manually set it using the Edit menu. (See page 26.)
- To edit PR channels or set a station to PR 0 (AV) channel, refer to page 26 "Edit/Manual".

Press **W**.

This completes the procedure and the T-V LINK menu appears.



When a T-V LINK compatible VCR is connected:
You can transmit the latest PR channel data from the TV to the VCR. Carry out the procedure described in "Downloading the PR channel data to the VCR" on page 26.

When a T-V LINK compatible VCR is not connected:
You cannot transmit the latest PR channel data from the TV to the VCR.
Press **W** to exit the T-V LINK menu.

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AV-28WZ4EP
AV-28WZ4EPS

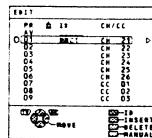
Install

Edit/Manual

You can change PR channel settings.

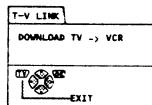
- You can delete an unwanted station from a PR channel,
- You can change the PR channel number of a station,
- You can add station IDs to PR channels,
- You can insert a new station to a PR channel, or
- You can manually set the desired station to a PR channel.

Press **▼/▲** to choose EDIT/MANUAL.
The Edit menu appears.



Use any of the following procedures to edit the PR channel setting.

Press **■**.
This completes the procedure and the T-V LINK menu appears.

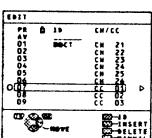


When a T-V LINK compatible VCR is connected:
You can transmit the latest PR channel data from the TV to the VCR. Carry out the procedure described in "Downloading the PR channel data to the VCR" on page 28.

When a T-V LINK compatible VCR is not connected:
You cannot transmit the latest PR channel data from the TV to the VCR. Press **■** to exit the T-V LINK menu.

■ Deleting a station

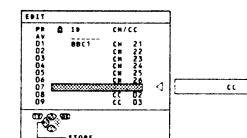
Press **▼/▲** to choose the station you want to delete then press the yellow button.



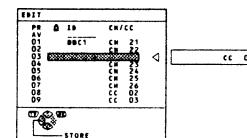
Note:
• If you delete a station from a PR channel, the following stations PR channel number move back one.

■ Changing the PR channel number

Press **▼/▲** to choose the station, then press **►**.



Press **▼/▲** to move the station to the desired PR channel number.

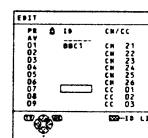


To cancel the operation, press **■** (Information).

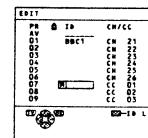
Press **◀**.

■ Adding a Station ID

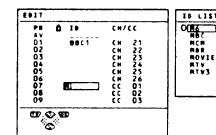
Press **▼/▲** to choose the station, then press the red button.



Press **▼/▲** to choose the first character of the desired Station ID.



Press the blue button.
The ID List menu appears.



Press **▼/▲** to choose the station ID.

To cancel the operation, press **■** (Information).

Press **■**.

Adding a Station ID name of your own:
Do the following procedure in place of "Adding a Station ID".

Press **▼/▲** to choose the station, then press the red button.

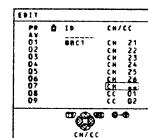
Press **▼/▲** to choose a character, then press **◀/▶** to move the cursor.

Repeat step 2 to complete the Station ID, then press **■**.

■ Inserting a new station

If you want to insert French stations to the PR channels:
You have to set the Country setting to FRANCE before inserting French stations to the PR channels.
If your Country setting is not FRANCE, change the Country setting to FRANCE. To change the Country Setting, refer to "Changing the Country Setting" on page 28.

Press **▼/▲** to choose the PR channel, then press the green button.



Press **▼/▲** to choose CC or CH.

CH: to insert the terrestrial broadcast stations
CC: to insert the cable TV stations

To set a French station:
Choose CH1, CH2, CC1 or CC2.

To cancel the operation, press **■** (Information).

Note:
• For details on the relationship between the displayed CH/CC number and the actual channel number, see the Channel Table on page 34.

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Press the number buttons to enter the channel number.

The channel number blinks. When the channel setting is complete, the blinking goes off.

To enter a one-digit channel number, enter the number and press **■**.

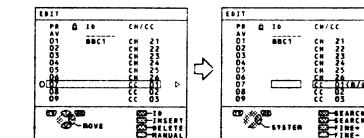
Note:
• When you insert a station, the station preset to PR99 is deleted.

■ Setting a station to a PR channel manually

If you want to set French stations to the PR channels:
You have to set the Country setting to FRANCE before setting French stations to the PR channels.
If your Country setting is not FRANCE, change the Country setting to FRANCE. To change the Country Setting, refer to "Changing the Country Setting" on page 28.

Press **▼/▲** to choose a PR channel number, then press the blue button.

Note:
• PR channel number "AV" appears on the screen as PR0 channel. We recommend setting this PR channel to the VCR RF channel from a VCR connected to the aerial socket.



Press the green or red button to search for a station.

Scanning stops when the TV finds a station.
To continue searching, press the red or green button again and repeat until the station you want appears.

CH: The terrestrial broadcast stations
CC: The cable TV stations

If reception is poor:
Press the blue or yellow button to fine-tune the station.

If reception is not correct:
Press **▶** to choose the correct broadcast system.

Note:
• For details on the relationship between the displayed CH/CC number and the actual channel number, see the Channel Table on page 34.

Press **■**.

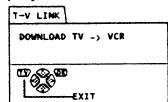
AV-32WZ4EP
AV-28WZ4EP
AV-28WZ4EPS

Install

■ Downloading the PR channel data to the VCR.

You can transmit the latest PR channel data from the TV to the VCR with T-V LINK.

1 Make sure that the T-V LINK menu is displayed.

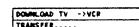


Notes:

- You cannot display the T-V LINK menu directly by choosing it from a menu.
- You cannot transmit the PR channel data to the VCR when a T-VLINK compatible VCR is not connected. Press  to exit the menu.
- For details about T-V LINK, refer to page 5.

2 Turn the VCR on.

3 Press .



The data transmission begins.
The display disappears once the data transmission ends.

Note:

- Depending on the type of VCR, the display may change once data transmission ends.
In this case, refer to the VCR's manual.

■ Changing the Country Setting

1 Display the Install menu.

- To return to the Install menu from the Edit menu, press .

2 Press  to choose AUTO PROGRAM. Then press .

The Country menu appears.

3 Press  to choose a Country. This completes the setting.

4 Press  to exit the MENU.

- To return to the Install menu, press .

Index

The functions in each menu are listed in the Index menu. The required function can be found in the Index menu and the operating menu for that function can be entered with one touch.

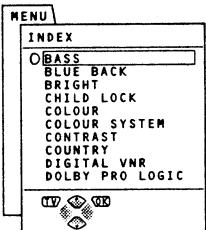
1 Press  to choose a function.
If the desired function is not displayed, press  until it appears.

2 Press .

The chosen function's operating menu will be displayed.

• To return to the MENU (Main Menu), press .

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1 Display MENU.



2 Choose INDEX.



3 Display the Index menu.



Demo

You can see the main features of your TV by using the Demo function.

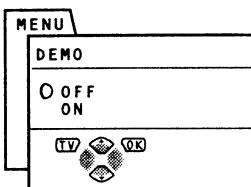
When the Demo is set to ON:
Each time the TV is turned on, the demonstration starts automatically. If you do not want that to happen, set the Demo setting to OFF.

1 Press  to choose ON.
• To cancel the Demo function, choose OFF.

2 Press .

The demonstration will start.

To stop the demonstration, press one of the buttons on the remote control.



1 Display MENU.



2 Choose DEMO.



3 Display the Demo menu.



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AV-28WZ4EP
AV-28WZ4EPS

Additional Preparation

Notes:

- Use headphones with a stereo mini jack (dia. 3.5 mm).
- When using headphones, follow the procedure "Headphone" on page 18.
- For further details, refer to manuals provided with the devices you are connecting.
- Connecting cables are not supplied.
- This TV set has external device connectors to which you can connect external devices. However, there are some differences in functions among them. Consult the table below before making connections.

External terminals specifications

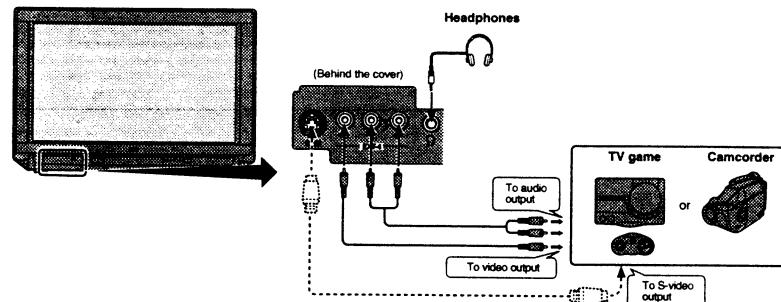
	EXT-1	EXT-2	EXT-3	EXT-4 (front)
VIDEO IN	✓	✓*1	✓*1	✓*1
VIDEO OUT	✓*2	✓*3	—	—
S-VIDEO IN	—	✓*1	✓*1	✓*1
S-VIDEO OUT	—	—	—	—
RGB IN	✓	—	—	—
AUDIO-L IN	✓	✓	✓	✓
AUDIO-R IN	✓	✓	✓	✓
AUDIO-L OUT	✓*2	✓*3	—	—
AUDIO-R OUT	✓*2	✓*3	—	—
T-V LINK	—	✓	—	—
Others	• Automatic detection and switching of input mode • Automatic detection and switching of ZOOM mode			

*1 Choose VIDEO or S-VIDEO mode from the EXT Setting menu. For details, see page 22 "EXT Setting".

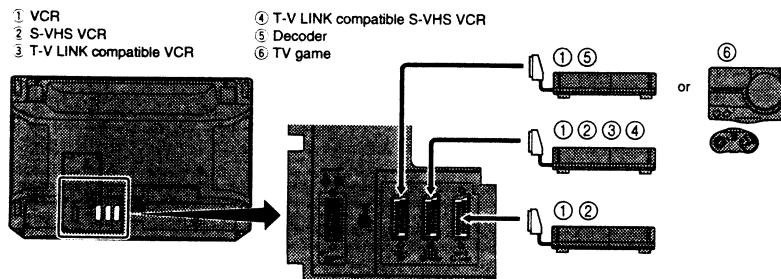
*2 Only the TV broadcast is output.

*3 TV broadcasts or inputs from other EXT terminals can be output. For details, see page 22 "Dubbing".

Front panel connections



Rear panel connections

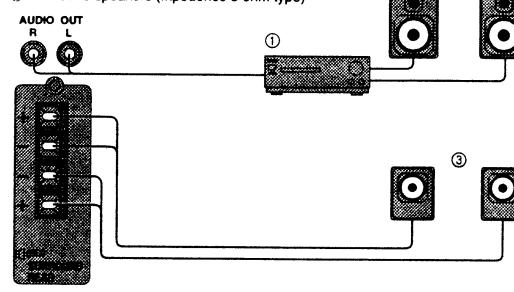


Connecting Speakers

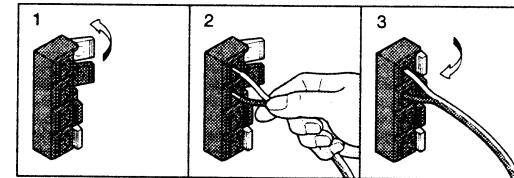
Caution:
 Do the following before connecting.

- Turn the power of all the equipment off.
- Set the amplifier volume to low.
- Read the manuals provided with the amplifiers and speakers.

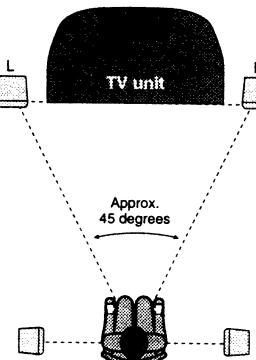
- ①: Stereo amplifier
- ②: Front speakers (Magnetic-shielded Type, L, R)
- ③: Surround speakers (Impedance 8 ohm type)



(Terminals on rear)



Positioning the speakers



Notes:

- Correctly connect the \oplus speaker terminal to the \oplus TV terminal, and the \ominus speaker terminal to the \ominus TV terminal.
- Though there is no L (left) and R (right) distinction for Surround Speakers, make sure that the \oplus and \ominus terminals on the speakers and the TV are correctly connected to the corresponding terminals as shown in the figure.
- Use the AUDIO OUT terminals for connecting an audio system. The volume output is controlled via the TV and the AUDIO OUT terminal output is not interrupted by headphone connection.
- When you want to use your Dolby Surround decoder, connect it to the AUDIO OUT terminals. Then set this TV's surround function to off.
- Use impedance 8 ohm type speakers for surround speakers (③).
- Use magnetic-shielded speakers for front speakers (②) to prevent interference by the TV.
- For optimal effect, install the speakers (③) at least 1 metre above the heads of seated viewers.

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Connecting Speakers

Connecting Surround Speakers

You can enjoy the Dolby Pro Logic surround sound with two additional surround speakers.

Note:
• You can connect both your audio system and additional surround speakers. For details, refer to page 33.

1 Connect the surround speakers ③ to the SURROUND REAR terminal.

2 Turn the TV on.

3 Press . The MENU appears.

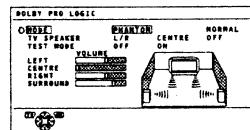
4 Press  to choose DIGITAL SURROUND and then press . The Digital Surround menu appears.



Note:
• If the Digital Surround does not appear in the MENU, disconnect the headphones from the TV.

5 Press  to choose DOLBY PRO LOGIC and then press .

The Dolby Pro Logic menu appears.



6 Press  to choose MODE and  to choose PHANTOM.

7 Press  to choose TV SPEAKER and  to choose L/R.

8 Press  to choose TEST MODE and press  to choose ON.

Test signals are output alternately from the speakers.

9 Press  to adjust the level of each speaker so the volume levels match the listening position.

LEFT, RIGHT:
Front speaker L, R
SURROUND:
Surround speakers

Note:
• When the Phantom mode is set, the volume of the CENTRE cannot be adjusted.

10 Press . This completes the setting.

Note:
• The TV SPEAKER setting in the Dolby Pro Logic menu is linked to the other TV speaker setting in the Pro Logic 3D-Phonic menu and Sound Setting menu.
• If you change the one of them, the others will be changed automatically.

Connecting an Audio System

You can use your audio system as front speakers instead of the front speakers on the TV.

Note:
• You can connect both your audio system and additional surround speakers. For details, refer to page 33.

1 Connect your stereo amplifier ① to the AUDIO OUT terminals.

2 Turn the TV on and set the volume to the lowest setting.

3 Press . The MENU appears.

4 Press  to choose SOUND SETTING. Then press .

The Sound Setting menu appears.



Note:
• When "SPEAKER" does not appear in the Sound Setting menu, press  to exit the menu and press  twice to display "SURROUND OFF". Then, repeat this procedure from step 3.

5 Press  to choose SPEAKER and press  to choose OFF. Then press .

To output sound from the TV speakers:
Set SPEAKER to ON.

6 Press . This completes the settings.

7 Turn the stereo amplifier on and re-adjust the volume setting, then press  to adjust the volume.

Notes:
• Setting the volume of the stereo amplifier too high may damage the speakers.
• The SPEAKER setting in the Sound Setting menu is linked to the other TV speaker setting in the Pro Logic 3D-Phonic menu and the Dolby Pro Logic menu.
• If you change the one of them, the others will be changed automatically.
• You can use the TV speakers as the centre speakers when you enjoy the Dolby Pro Logic 3D-Phonic surround sound. This method enhances spoken dialogue. For details, refer to page 20.

Connecting both Your Audio System and Surround Speakers

When you connect both your audio system and the additional surround speakers, you can enjoy the Dolby Pro Logic Surround sound with four external speakers and also you can use the TV speakers as the centre speakers.

When you do not use the Dolby Pro Logic or Dolby Pro Logic 3D-Phonic function, you can use your audio system as front speakers instead of the front speakers on the TV.

1 Connect your stereo amplifier ① to the AUDIO OUT terminals and connect surround speakers ③ to the SURROUND REAR terminal.

2 Turn the TV on and set the volume to the normal setting.

3 Press . The MENU appears.

4 Press  to choose DIGITAL SURROUND and then press .

The Digital Surround menu appears.



Note:
• If Digital Surround does not appear in the MENU, disconnect the headphones from the TV.

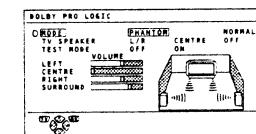
5 Press  to choose DOLBY PRO LOGIC and then press .

Note:
• When the Phantom mode is set, the volume of the Centre speaker cannot be adjusted.

Note:
• If the volume of the speakers does not match after adjusting the volume levels, adjust the volume of the stereo amplifier.
• If you change the one of them, the others will be changed automatically.

Connecting Speakers

The DOLBY PRO LOGIC menu appears.



6 Press  to choose an item and  to change the following settings.

Set MODE to NORMAL.

Set TV SPEAKER to CENTRE.

If you do not want to use the TV speakers as the centre speakers:

Set MODE to PHANTOM and TV SPEAKER to OFF. PHANTOM mode omits the centre speaker.

7 Turn the stereo amplifier on and re-adjust the volume setting.

Note:
• Setting the volume of the stereo amplifier too high may damage the speakers.

8 Press  to choose TEST MODE and  to choose ON.

Test signals are output alternately from the speakers.

Note:
• If the test signal is too faint, adjust the volume of the stereo amplifier. However, setting the volume too high may damage the speakers.

9 Press  to adjust the level of each speaker so the volume levels match the listening position (the location of the viewer as described by the diagram on page 31).

LEFT, RIGHT:

Front Speaker L, R

CENTRE:

Centre Speaker

SURROUND:

Surround Speakers

Note:
• When the Phantom mode is set, the volume of the Centre speaker cannot be adjusted.

Note:
• If the volume of the speakers does not match after adjusting the volume levels, adjust the volume of the stereo amplifier.

10 Press . This completes the settings.

Note:
• The TV SPEAKER setting in the Dolby Pro Logic menu is linked to the other TV speaker setting in the Pro Logic 3D-Phonic menu and the Sound Setting menu.

Note:
• If you change the one of them, the others will be changed automatically.

Channel Table

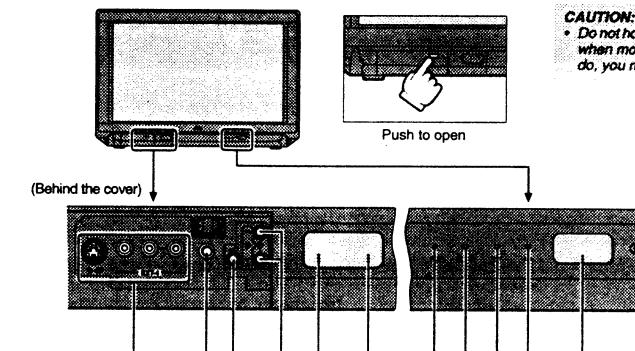
- The following table shows the relationship between the displayed CH/CC channel number and the actual channel number. The actual channel numbers for the "CC" channel numbers from CC110 to CC161 differ depending on the cable TV station. Check which actual channel numbers correspond to which "CC" channels while referring to the broadcast frequencies which are indicated in the channel tables of each cable TV station. If you can not find the broadcast frequency for a channel, contact the cable TV station.

CH	Channel	CH	Channel	CC	Channel	CH	Channel
CH 02 / CH 202	E2	CH 40 / CH 240	E40	CC 01 / CC 201	S1	CC 31 / CC 231	S31
CH 03 / CH 203	E3, ITALY A	CH 41 / CH 241	E41	CC 02 / CC 202	S2	CC 32 / CC 232	S32
CH 04 / CH 204	E4, ITALY B	CH 42 / CH 242	E42	CC 03 / CC 203	S3	CC 33 / CC 233	S33
CH 05 / CH 205	E5, ITALY D	CH 43 / CH 243	E43	CC 04 / CC 204	S4	CC 34 / CC 234	S34
CH 06 / CH 206	E6, ITALY E	CH 44 / CH 244	E44	CC 05 / CC 205	S5	CC 35 / CC 235	S35
CH 07 / CH 207	E7, ITALY F	CH 45 / CH 245	E45	CC 06 / CC 206	S6	CC 36 / CC 236	S36
CH 08 / CH 208	E8	CH 46 / CH 246	E46	CC 07 / CC 207	S7	CC 37 / CC 237	S37
CH 09 / CH 209	E9, ITALY G	CH 47 / CH 247	E47	CC 08 / CC 208	S8	CC 38 / CC 238	S38
CH 10 / CH 210	E10, ITALY H	CH 48 / CH 248	E48	CC 09 / CC 209	S9	CC 39 / CC 239	S39
CH 11 / CH 211	E11, ITALY H+1	CH 49 / CH 249	E49	CC 10 / CC 210	S10	CC 40 / CC 240	S40
CH 12 / CH 212	E12, ITALY H+2	CH 50 / CH 250	E50	CC 11 / CC 211	S11	CC 41 / CC 241	S41
CH 21 / CH 221	E21	CH 51 / CH 251	E51	CC 12 / CC 212	S12	CC 75 / CC 275	X
CH 22 / CH 222	E22	CH 52 / CH 252	E52	CC 13 / CC 213	S13	CC 76 / CC 276	Y
CH 23 / CH 223	E23	CH 53 / CH 253	E53	CC 14 / CC 214	S14	CC 77 / CC 277	Z, ITALY C
CH 24 / CH 224	E24	CH 54 / CH 254	E54	CC 15 / CC 215	S15	CC 78 / CC 278	Z+1
CH 25 / CH 225	E25	CH 55 / CH 255	E55	CC 16 / CC 216	S16	CC 79 / CC 279	Z+2
CH 26 / CH 226	E26	CH 56 / CH 256	E56	CC 17 / CC 217	S17		
CH 27 / CH 227	E27	CH 57 / CH 257	E57	CC 18 / CC 218	S18		
CH 28 / CH 228	E28	CH 58 / CH 258	E58	CC 19 / CC 219	S19		
CH 29 / CH 229	E29	CH 59 / CH 259	E59	CC 20 / CC 220	S20		
CH 30 / CH 230	E30	CH 60 / CH 260	E60	CC 21 / CC 221	S21		
CH 31 / CH 231	E31	CH 61 / CH 261	E61	CC 22 / CC 222	S22		
CH 32 / CH 232	E32	CH 62 / CH 262	E62	CC 23 / CC 223	S23		
CH 33 / CH 233	E33	CH 63 / CH 263	E63	CC 24 / CC 224	S24		
CH 34 / CH 234	E34	CH 64 / CH 264	E64	CC 25 / CC 225	S25		
CH 35 / CH 235	E35	CH 65 / CH 265	E65	CC 26 / CC 226	S26		
CH 36 / CH 236	E36	CH 66 / CH 266	E66	CC 27 / CC 227	S27		
CH 37 / CH 237	E37	CH 67 / CH 267	E67	CC 28 / CC 228	S28		
CH 38 / CH 238	E38	CH 68 / CH 268	E68	CC 29 / CC 229	S29		
CH 39 / CH 239	E39	CH 69 / CH 269	E69	CC 30 / CC 230	S30		

CH	Channel	CH	Channel	CC	Frequency (MHz)	CH	Channel	CC	Frequency (MHz)
CH 102	F2	CH 141	F41	CC 110	116 - 124	CH 151		CC 151	383 - 391
CH 103	F3	CH 142	F42	CC 111	124 - 132	CH 152		CC 152	391 - 399
CH 104	F4	CH 143	F43	CC 112	132 - 140	CH 153		CC 153	399 - 407
CH 105	F5	CH 144	F44	CC 113	140 - 148	CH 154		CC 154	407 - 415
CH 106	F6	CH 145	F45	CC 114	148 - 156	CH 155		CC 155	415 - 423
CH 107	F7	CH 146	F46	CC 115	156 - 164	CH 156		CC 156	423 - 431
CH 108	F8	CH 147	F47	CC 116	164 - 172	CH 157		CC 157	431 - 439
CH 109	F9	CH 148	F48	CC 123	220 - 228	CH 158		CC 158	439 - 447
CH 110	F10	CH 149	F49	CC 124	228 - 236	CH 159		CC 159	447 - 455
CH 121	F21	CH 150	F50	CC 125	236 - 244	CH 160		CC 160	455 - 463
CH 122	F22	CH 151	F51	CC 126	244 - 252	CH 161		CC 161	463 - 469
CH 123	F23	CH 152	F52	CC 127	252 - 260				
CH 124	F24	CH 153	F53	CC 128	260 - 268				
CH 125	F25	CH 154	F54	CC 129	268 - 276				
CH 126	F26	CH 155	F55	CC 130	276 - 284				
CH 127	F27	CH 156	F56	CC 131	284 - 292				
CH 128	F28	CH 157	F57	CC 132	292 - 300				
CH 129	F29	CH 158	F58	CC 133	300 - 306				
CH 130	F30	CH 159	F59	CC 141	306 - 311				
CH 131	F31	CH 160	F60	CC 142	311 - 319				
CH 132	F32	CH 161	F61	CC 143	319 - 327				
CH 133	F33	CH 162	F62	CC 144	327 - 335				
CH 134	F34	CH 163	F63	CC 145	335 - 343				
CH 135	F35	CH 164	F64	CC 146	343 - 351				
CH 136	F36	CH 165	F65	CC 147	351 - 359				
CH 137	F37	CH 166	F66	CC 148	359 - 367				
CH 138	F38	CH 167	F67	CC 149	367 - 375				
CH 139	F39	CH 168	F68	CH 150	375 - 383				
CH 140	F40	CH 169	F69						

TV Buttons and Parts

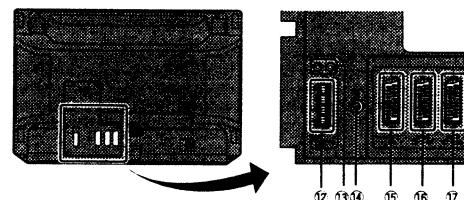
Front Panel



CAUTION:
• Do not hold the front panel cover when moving the TV set, if you do, you may break it.

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Rear Panel



12 SURROUND REAR terminal	page 31
13 AUDIO OUT terminal	page 31
14 Aerial socket	page 2
15 EXT-1 terminal	pages 2, 22, 30
16 EXT-2 terminal	pages 2, 5, 22, 30
17 EXT-3 terminal	pages 22, 30

AV-32WZ4EP
AV-28WZ4EP
AV-28WZ4EPS

Troubleshooting

- If the plug is disconnected from the AC socket, or the TV aerial has problems, you may think there is a problem with the TV itself. Be sure to check the following before calling for service.

IMPORTANT

- Review all instructions in this manual

Problem	Action
■ GENERAL	<p>The TV cannot be turned on.</p> <ul style="list-style-type: none"> Insert the plug in an AC socket. Turn the main power on. (See page 6.) <p>No picture or sound.</p> <ul style="list-style-type: none"> Check aerial connections. (See page 2.) Choose the correct input mode. (See page 7.) Choose the correct colour system manually. (See page 16.) <p>The TV shuts off automatically.</p> <ul style="list-style-type: none"> Did you set the Sleep Timer? (See page 23.) <p>Inoperable remote control.</p> <ul style="list-style-type: none"> Replace the batteries. (See page 2.) Insert the batteries correctly. (See page 2.) Use the remote control within about 7 metres of the TV. <p>MENU can not be displayed.</p> <ul style="list-style-type: none"> Are you watching the Teletext screen? None of the Menu operations are possible when viewing a teletext programme. Perform the Menu operation in the TV mode.
■ PICTURE	<p>Poor colour.</p> <ul style="list-style-type: none"> Adjust COLOUR and BRIGHT. (See page 15.) Choose the correct colour system manually. (See page 16.) <p>The ZOOM mode suddenly changes.</p> <ul style="list-style-type: none"> The AUTO mode is working. (See page 9.) <p>The picture is tilted.</p> <ul style="list-style-type: none"> Correct the tilted picture. (See page 17.) <p>Lines or streaks in picture (interference).</p> <ul style="list-style-type: none"> Move the components apart until the interference is eliminated. Reposition the aerial. <p>Spots (crosstalk).</p> <ul style="list-style-type: none"> Reposition the aerial. Replace with an aerial with better directionality. <p>Double pictures (ghosts).</p> <ul style="list-style-type: none"> Reposition the aerial. Replace with an aerial with better directionality. <p>Snowy pictures (noise).</p> <ul style="list-style-type: none"> Check aerial connections. Redirect the aerial. Replace or repair the aerial.

Troubleshooting

Problem	Action
■ SOUND	<p>The screen turns blue.</p> <ul style="list-style-type: none"> Is the Blue Back function set to ON? (See page 23.) <p>No sound from the TV's speakers.</p> <ul style="list-style-type: none"> Disconnect the headphones. If you want to have sound come from both the TV's speaker and headphones. See page 19. Set SPEAKER to ON. (See page 18.) <p>The headphone volume level cannot be adjusted.</p> <ul style="list-style-type: none"> It cannot be adjusted with the $\blacktriangle/\triangleright$ buttons or \triangle (volume) $-/+$ buttons. Adjust it with the VOLUME function in the HEADPHONE menu. (See page 19.) <p>The sound from the TV does not stop even if the headphones are connected.</p> <ul style="list-style-type: none"> TV SPEAKER in the HEADPHONE menu is set to ON. Change the setting to OFF. (See page 19.) <p>No stereo sound.</p> <ul style="list-style-type: none"> Change STEREO/I/HII to CD mode. (See page 18.) Is TV SPEAKER on the Pro Logic 3D-Phonic menu or Dolby Pro Logic menu set to CENTRE? Change the TV-SPEAKER setting to L/R. (See pages 20 and 32.) <p>No "SUB-I" or "SUB-II" sound in a multi-sound broadcast.</p> <ul style="list-style-type: none"> Change STEREO/I/HII to the correct mode. (See page 18.) <p>Surround function does not function properly.</p> <ul style="list-style-type: none"> Dolby Pro Logic Surround and Pro Logic 3D-Phonic work properly only with Dolby Surround encoded programmes. Functions other than Hyper Sound and the Headphone surround functions work properly only with stereo programmes. Hyper Sound works properly only with mono programmes.
■ TELETEXT	<p>No teletext reception.</p> <ul style="list-style-type: none"> Tune to a channel that has teletext. (See page 12.) Videotaping teletext is not recommended as it may not record correctly. <p>The current time is not displayed.</p> <ul style="list-style-type: none"> Tune to a channel that has teletext. (See page 12.)

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The following are normal and are NOT malfunctions:

- When touching the picture tube surface, you might feel a slight charge of static electricity. This is because the picture tube contains static electricity; it does not affect the human body.
- The TV may emit a crackling sound due to a sudden change in temperature. There is no problem unless the picture or sound is abnormal.
- When a still, bright image (of a white dress, for example) appears on the screen, the image may be coloured. This problem occurs in all picture tubes, and as the bright image disappears, the colour also disappears.
- This TV is equipped with a microcomputer that may operate abnormally due to interference from external components. If this happens, turn off the main power and disconnect the power cord from the AC socket. Then reconnect the power cord to AC socket and turn on the main power again.

 AV-32WZ4EP
 AV-28WZ4EP
 AV-28WZ4EPS

AV-32WZ4EP
AV-28WZ4EP
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Specifications

Item	Model	AV-32WZ4EP	AV-28WZ4EP / AV-28WZ4EPS
TV RF systems	CCIR B/G, I, L		
Colour systems	PAL, SECAM (NTSC 3.58 / 4.43 MHz only in EXT modes)		
Channels and frequencies	E2-E12, E21-E69, S1-S41, X, Y, Z, Z+1, Z+2, A-H, H+1, H+2, F2 - F10, F21 - F69 • French cable TV channel of broadcast frequencies 116 - 172 MHz and 220 - 469 MHz		
Sound-multiplex systems	A2 (B/G)/NICAM (B/G, L) system		
Teletext systems	Fastext (United Kingdom system) / TOP (German system) / WST (standard system)		
Power requirements	AC 220 - 240 V, 50 Hz		
Power consumption	Maximum 249 W, Average 145 W, Standby 1.2 W	Maximum 242 W, Average 138 W, Standby 1.2 W	
Picture tube size	Visible area 76 cm (measured diagonally)	Visible area 66 cm (measured diagonally)	
Audio output	Rated Power output: 20 W + 20 W		
Speakers	10 cm round × 2, 3.5 cm round × 2		
External input / output	EXT-1, EXT-2, EXT-3	21-pin Euroconnector (SCART)	
	EXT-4	VIDEO IN (RCA) AUDIO L / R IN (RCA) S-VIDEO IN (Mini Din 4-pin)	
	AUDIO OUT	(Variable out (0-1 Vrms), low impedance) FRONT L/R output (RCA)	
	SURROUND REAR	Speaker terminals for external surround speakers (Impedance 8 ohm) only. Rated power output: 7.5 W + 7.5W	
	Headphone jack (stereo mini jack, dia. 3.5 mm)		
Dimensions (W × H × D)	805 mm × 550 mm × 550 mm	716 mm × 489 mm × 496 mm	
Weight	49.8 kg	36.3 kg	
Accessories	Remote control unit RM-C793 × 1 AAA (R03) dry cell battery × 2		

Design and specifications subject to change without notice.

Pictures displayed on the screen using this TV's image-processing functions should not be shown for any commercial or demonstration purpose in public places (tearooms and halls in hotels, etc.) without the consent of the owners of copyright of the original picture sources, as this constitutes an infringement of copyright.

